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ABSTRACT

Six observers studied both school-to-work transition programs for youth and retraining programs for adult workers in three Western European countries--West Germany, Sweden, and England. They identified European solutions to a pressing problem in the United States: youth and adult workers whose skills are inadequate for today's and tomorrow's jobs. The education policies of Germany and Sweden reflect the reality that not all children go on to college. A viable alternative is offered through the dual system, in which a student receives a certificate for completing an apprenticeship program. Sweden's system requires schools to provide students with work-related experiences. In contrast, England finds it difficult to correct the shortcomings of a system that historically reserved education after age 16 for the academic elite. A national curriculum has been implemented in an attempt to upgrade schooling. Emphasis in all three countries is placed on development of skills of the next generation, concern about the livelihood of the employed, and commitment of employers, labor, and government to deal with change. (Part II of this report is a clipping file with 28 pages of stories about the European experience from newspapers and other publications. Articles also address U.S. failures and successes using techniques borrowed from these countries as well as its own. Lists of reporters, sources, and reports are appended.) (YLB)

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Training for Work

What the U.S. Can Learn from Europe

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Training for Work:

What the U.S. Can Learn from Europe

"Success in producing well-trained job candidates does not depend so much on the specific organization or content of education programs as it does on a society's conviction that education and training are both indispensable and must be funded at significant levels."

A Report of the
Education Writers Association

EWA

EWA thanks the William T. Grant Foundation Commission on Work, Family and Citizenship whose assistance made possible this report, and the German Marshall Fund of the United States whose assistance made possible the trip on which this report is based. The views expressed and conclusions drawn are based on the work of the reporters and the staff of the Education Writers Association.

The Education Writers Association, founded in 1947, is the national professional association of education reporters and writers.

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Preface

Six observers from the Education Writers Association, with help from the German Marshall Fund of the United States, journeyed to three Western European countries — West Germany, Sweden, and England — in spring 1990 to study both school-to-work transition programs for youth and retraining programs for adult workers.

The six were on the trail of European solutions to two pressing U.S. problems — youth and adult workers whose skills are inadequate for today's and tomorrow's jobs.

The U.S. work force is no longer among the most educated, highly trained, and competitive in the world. The United States — facing this undeniable fact, a continuing decline in manufacturing, and the prospect of a vigorous new European community in 1992 — must begin to plan for its national future. The nature of work is changing, and the work force is growing older and ethnically diverse, even as producers and markets are going global.

The six travelers included David Bednarek, business writer for the *Milwaukee Journal*; Charisse Grant, education writer for the *Miami Herald*; Andrea Knox, business writer for the *Philadelphia Inquirer* ; Cindy Richards, business writer for the *Chicago Sun-Times;* Susan Tifft, education reporter for *Time*; and Lisa Walker, executive director of the Education Writers Association.

Part I of this report summarizes their narrative comments. Part II reproduces what the reporters learned as related in stories in their newspapers. Articles on the European experience by other writers are included, as well.

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Part I:
What the United States Can Learn from Europe

ANDREA KNOX

TRAINING FOR WORK:
WHAT THE UNITED STATES CAN LEARN FROM EUROPE

Soaring unemployment rates among young people in every city in the United States and large numbers of high school graduates drifting aimlessly from job to job are pushing American educators, business people, and government officials to search for answers.

Several European countries, facing the same problems, have taken steps to train and retrain their workforces for the latter part of the 20th century, moving well ahead of the United States in this area. Recently, U.S. states and cities have sent delegations to Europe to discover what other countries have done to prepare their students for jobs and to retrain workers who have become unemployed in their rapidly changing economies.

When a close look is taken, it is the high level of commitment to the development of individual skills which stands out, in stark contrast to the United States. In Sweden, this commitment is part of the social contract between government and citizens. In Germany, it is a centuries-old tradition of training youth to bring them into the workplace. Programs to introduce youth to work, programs to develop the technical skills of a large percentage of school graduates, programs that provide retraining for displaced workers, the articulation of specific qualifications for the certificates granted on leaving technical training — these are examples of the breadth of agreement and commitment.

The strong and conscious connection between school and work in Germany and Sweden has been almost nonexistent in the United States. In Germany, counseling about jobs and the world of work starts early; in the United States, a student rarely hears about such practical considerations unless he is on a "voc-ed" track, which usually puts him at the bottom of a school's priority list.

The high participation rate of students in Sweden and in West Germany's dual system, compared to the large exodus from British schools at age 16, clearly illustrates the difference that a close connection between education and work can make. The education policies of Germany and Sweden reflect the reality that not all children go on to college, that school systems must offer viable opportunities for those who don't, and that success in producing well-trained job candidates does not depend so much on the specific organization or content of education programs as it does on a society's conviction that education and training are both indispensable and must be funded at significant levels.

In both Germany and Sweden, that basic commitment to education and training has produced systems that provide high-quality training for a substantial part of the work force — despite differences in the structure and content of the training programs themselves.

In Hamburg, Edmund Vidal of the Vidal and Sohn Mercedes-Benz dealership says that he trains apprentices that he may not be able to hire, because "I feel, since we can offer professional education and training, that we should do this."

Dresdner Bank reports that half the apprentices whose training they support do not stay and work for them, but instead leave to go to university. They do not require an apprentice to promise to work for the bank for a certain period in return for training.

"'...a job for everyone' is an explicit tenet of Swedish public policy. Therefore the government provides job training for anyone who wants it — including the unemployed, and those who are simply dissatisfied with their jobs..."

There is little question that West German society is convinced that job training must be available for school-leavers who do not plan to go on to the university.

In Sweden, Ewa Skarman of AMS points out that "a job for everyone" is an explicit tenet of Swedish public policy. Therefore the government provides job training for anyone who wants it — including the unemployed,

and those who are simply dissatisfied with their jobs, as well. Direct welfare payments are restricted; non-working adults instead are given stipends while they participate in job-training programs. To support these broad measures, the government spends 0.5 percent of gross domestic income on labor market programs, compared with U.S. public expenditures of only 0.11 percent on work force training. While employers may set up their own training programs, nationally mandated worker training programs are run and funded by the government. Students in the government programs get their experience in laboratories and classrooms rather than at workplaces.

It is instructive that neither Sweden nor Germany limits publicly-supported training to entry-level jobs or to the "problem" segments of society. That contrasts vividly with the prevailing ethos in both the United States and England, where government-supported programs have been heavily weighted towards training marginal populations for low-level jobs — and where employers complain about the quality of the workers who come to them.

While there are complaints about inadequacies, the consensus in both Germany and Sweden is that their systems produce workers with appropriate skills.

There is no such consensus today in the United States.

Immigrant Population[1] As a Percent of Total Population

	% Total Population	Year
United States	6.2	1980
Denmark	2.1	1985
Japan	0.7	1984
Singapore	21.9	1980
Sweden[2]	8.0	1988
West Germany	7.2	1980

[1]Source: U.S CensusBureau
Center for International Research

[2]Case Team Interviews
Commission on the Skills of the American Work Force

All three of the countries visited — Germany, Sweden, and England — share with the United States circumstances that make attempts to improve their work forces more difficult. One is the "baby bust" — the decline in the numbers of young workers aged 18 to 25. This demographic dip has created a sellers market that makes it harder to persuade young people that they need advanced training, or, for that matter, education of any sort. All three countries have also experienced an influx of new immigrants, many lacking basic language and mathematical skills, which puts added burdens on their education, welfare, and training systems.

The three countries have the advantages of small size, suggesting that the individual state, instead of the federal government, might be a proper unit for consideration of programs here. The fact that all three are social democracies also seems to encourage their governments to address education and training issues more coherently and humanely than does the United States.

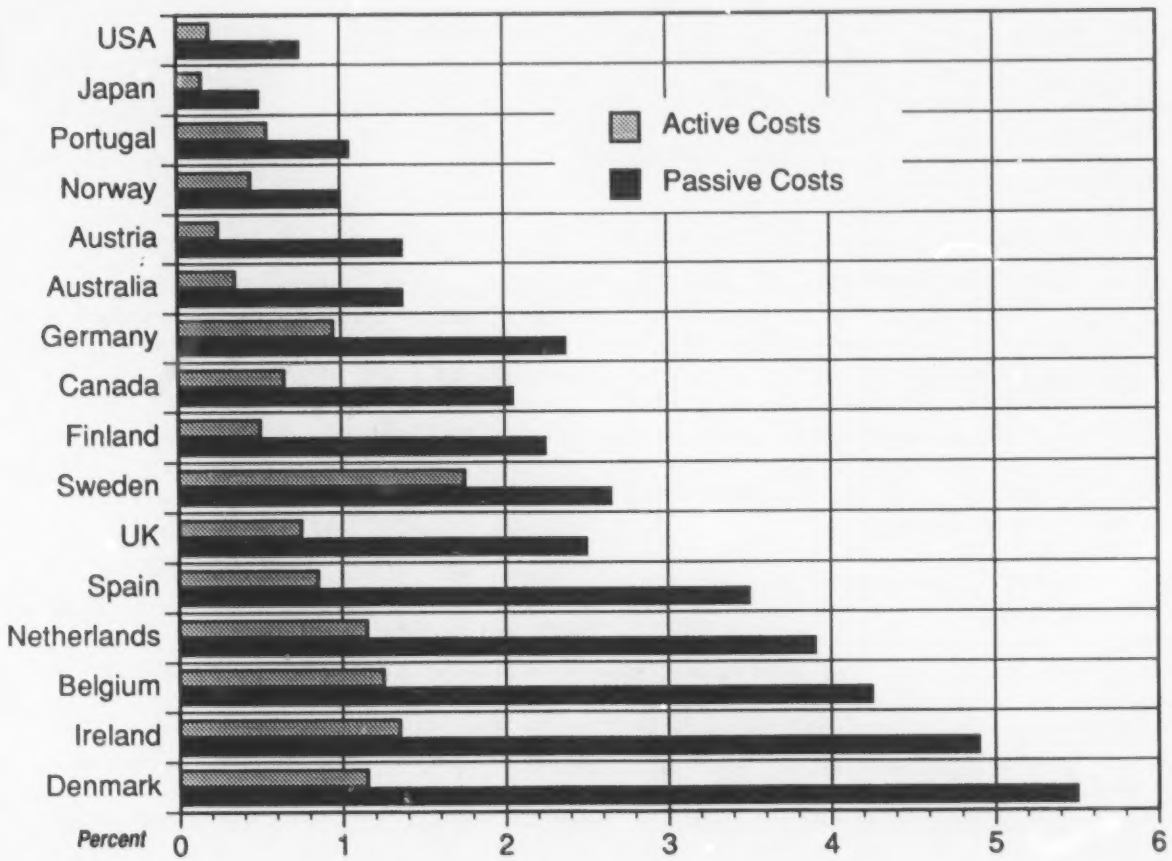
But, in the end, the important point is the emphasis that is placed on the care and development of skills of the next generation, the concern about the livelihood of those already in jobs, and the commitment of employers, labor, and government to deal with the changes that are occurring. The United States can learn from the programs that work, and devise U.S. adaptations.

West Germany

The German apprenticeship system — based on centuries of experience and government policy — encourages business to take a long-term view of training. Employers share with government the cost of worker training by paying their apprentices small stipends and providing on-the-job experience. The employer continues to pay the stipend even during the government-mandated 13 weeks a year that the apprentices return to school, although the classroom work itself is funded by the government.

But much of the appeal of the West German model begins where the compulsory aspects of its educational system end. As each child reaches age 10, the German family must choose one of three school tracks for that child — grammar school (gymnasium), intermediate (realschule, parallel to U.S. comprehensive schools), or general school (hauptschule). In general, the choice of grammar school at age 10 means that the child will go on to university; the other two tracks mean entrance to the world of work instead. New flexibility in the German system will allow a child to switch to grammar school or to take additional courses after intermediate school (and, technically, after general school), but the transfer is

Labor Market Policy Programs
By Percentage of GNP



Active Costs: job creation programs and job training programs
Passive Costs: unemployment benefits, welfare, and emergency relief

Source: OECD Employment Outlook, July 1989
Reprinted from *The Labour Market 1988/89 Annual Report*, The Swedish Labour Market Administration

Worker Training Compared

	United States	Germany	Japan	Korea
School-to-work transition	Left mostly to chance; some employers have ties with local schools	Apprenticeship for most non-college-bound youth	Personal relationships between employers and local schools	Employers recruit from vocational and academic high schools
Vocational education				
Extent	Available in most urban areas	Universally available	Limited; mostly assumed by employers	Universally available
Quality	Wide range: poor to excellent	Uniformly good	Fair to good	Vocational high schools uniformly good
Employer-provided training				
Extent	Largely limited to managers and technicians	Widespread at entry level and to qualify for promotion	Widespread	Limited; employers rely on public vocational institutes
Quality	Wide range; some excellent, but more often weak or unstructured	Very good	Very good	Generally poor
Public policies	Federal role very limited; State aid to employers growing	Govern apprenticeship; encourage continuing training	Subsidies encourage training by small firms	Directive—some employers resist policies

SOURCE: Office of Technology Assessment, 1990.

difficult, making entrance to grammar school at age 10 a critical juncture for university attendance.

While the grammar school track has a reputation for rigor, the quality of the lowest track, general school, is questionable. Some West German business people and students even echo a criticism commonly heard about U.S. schools, that children graduate from general school without the basic skills they need to succeed in an increasingly high-skilled work force.

But the dual system does allow 70 percent of all students to acquire the fundamentals for success in work, and many of the students who plan later to go on to university will spend a few years in a vocational education program in order to "have something to fall back on," in the words of Anja Baertling, a 21-year- old carpenter's apprentice who plans to have her own furniture-making business one day.

The key to success in West Germany — where only 25 percent go on to university — is *the certificate.*

The certificate is proof that its owner has completed an apprenticeship program through the "dual-system" — a school program that includes on-the-job training as well as classroom instruction. This is the school track that the majority of 16-year-old Germans choose. They attend school full-time for nine years, and then sign on for a three-and-a-half-year training program.

The backbone of the program is industry commitment. The student is expected to find an employer who will provide the vocational training. Students sign a contract that entitles them to a small monthly stipend, ensures that at least a minimum amount of time will be spent in the classroom, and provides the employer with a source of inexpensive labor.

Interviews with employers and students did reveal some problems with the dual system: training opportunities are subject to economic trends, sometimes more people are trained in particular trades than are needed, and apprentices are a source of cheap labor that is sometimes exploited. But the system turns out an enviable number of trained workers.

"It is instructive that neither Sweden nor Germany limits publicly-supported training to entry-level jobs or to the 'problem' segments of society."

In contrast, a high school diploma in the United States all too often is simply proof of surviving, rather than proof of performance, as in the dual system. If U.S. school districts and corporations were to develop programs in which business had a hand in the training and education of high school students, perhaps employers would have greater confidence that graduates are job-ready.

One difficulty in this country lies in creating a substitute for the cultural context that allows the German

dual system to endure — a society that places a great deal of value on what people can accomplish with their hands, and a centuries-old tradition of crafts which take responsibility for training the work force of the future.

There are growing indications that the states and the U.S. federal government are ready to experiment with versions of apprenticeship programs. The U.S. Department of Labor (DOL) has set up a commission to define the skills needed to leave high school, and the recent report of the Commission on Skills of the American Workforce has recommended a national exam and a certificate for all students prior to going to college or leaving high school. DOL and private foundations have begun funding apprenticeship experiments. And individual states, including Wisconsin and Florida, are looking at ways to provide better pathways for those not going on to college.

Work-study programs, which now offer little more than part-time jobs, also could be upgraded into meaningful partnerships between companies and schools. In the classroom, teachers could draw on students' work experience. Employers would offer guidance, perhaps pay students — in pilot programs — for time spent in the classroom, as West German firms do. Government officials together with employers could develop standards, comparable to Germany's national qualification system, to ensure the quality of vocational program graduates.

To devise such a program would require several changes in American thinking. Business would have to view youth training as an important investment. Schools would have to give credence to the aspirations of students who want to go straight from high school into the work force. Educators would have to allow business to take a more direct role in schooling. Employers and society in general would have to buy into the idea that a vocational certificate, like a college degree, can be proof of one's abilities.

Sweden

Sweden's population has a strong work ethic, despite a welfare system that seems tacitly to encourage a high degree of absenteeism. There is a general recognition that work, *any work*, has social value. Sweden thus encourages life-long training by paying a stipend to workers who choose to return to the classroom in search of new skills or a new career. (Swedish workers have the right to be retrained any number of times over the course of their working lives.) This system begins with youth. It also links welfare and unemployment benefits to work and retraining, paying the unemployed a stipend that they can live on while they are being retrained.

Sweden's negligible youth unemployment rate — 2.5 percent — is still double the rate for the overall work force. These low rates are due in part to the active and passive measures of an amazing social system, supported by one of the highest tax rates in the world.

Sweden's system requires schools to provide students with work-related experiences, (although there is apparently no inclination to follow the apprenticeship route of West Germany). Statistics showing that about half the students who attend Sweden's upper-secondary school pursue vocational lines indicate that students see such lines as viable choices.

"While there are complaints about inadequacies, the consensus in both Germany and Sweden is that their systems produce workers with appropriate skills. There is no such consensus today in the United States."

The Swedish requirement that students receive six to ten weeks of work-related experience during compulsory school is a step that U.S. schools could undertake. The upper-secondary school housed at the SKF bearing plant in Gothenburg is impressive, and several industries, media among them, could logically operate such a program in the United States. Florida's Dade County, in fact, already has one company that houses an elementary school as a convenience to working parents. A corporate high school is only one step further.

However well the Swedish training may serve workers, the system has its business critics. Lars Cambert, a human resources executive for Volvo in Gothenburg, says that Sweden should upgrade its academic skills.

DAVID BEDNAREK

• Establish a certificate of initial mastery to be met by all students by age 16.

• Create new local employment and training boards to oversee school-to-work transition programs and training systems for adult workers.

• Have local employment and training boards develop alternative programs for those who do not attain the certificate of initial mastery.

• Encourage all employers to invest in further education and training of their workers and to establish high-productivity work organizations.

Recommendations of The Commission on the Skills of the American Workforce, June 1989

Furthermore, the training provided by government programs often is inappropriate for industry needs. In 1989, only 627 of the 8,081 students who graduated from vocational education courses in Gothenburg were qualified to work for Volvo, said Claes Rosengram, head of the company's department of education and work environment. "We needed 2,000, so we had to hire from other [specialties] and train them," he added.

Sweden's low unemployment rate appears to be part of the problem. With the shortage of available workers, youth and adults alike have many choices and are not willing to work on monotonous assembly-line jobs. Thus employers must rethink work and training programs to keep workers satisfied and productivity up.

England

In contrast to West Germany and Sweden, England is finding it difficult to correct the shortcomings of a system that historically reserved education after the age of 16 almost exclusively for the academic elite. The 60-percent rate for students who leave school as soon as the law allows demonstrates the irrelevance of school to work.

In an attempt to upgrade schooling, Britain has put in place a multiplicity of programs, none very old. It has taken the dramatic step of implementing a national curriculum — a measure unlikely in the United States, where a diverse population brings many differing needs and cultures to each state, community, and school house.

British officials say they are increasing the number of options for children who want more vocationally-oriented choices. For 16-year-olds at a training program in Sheffield, the vocational center clearly met needs that the city school system did not.

The Technical and Vocational Education Initiatives policy appears to do for British schools what the requirement of work experience in its compulsory schools has done in Sweden — *to encourage students to think about work at an early age.* And London and Sheffield officials say their version of "The Boston Compact," in which businesses promise jobs to young people who agree to finish high school, is showing signs of success. But it is not clear whether British schools have improved the quality of what students learn once they are persuaded to stay.

One area that bears watching is the evolution of national standards for trades. If the National Council for Vocational Qualifications can complete the task and if businesses accept the qualifications as proof of workers' skills, the United States should draw on Britain's experience and consider taking similar steps.

Faced with the fact that only 30 percent of their students stay in school until age 18, the English also have adopted a voucher system to ensure that those who leave school at age 16 can get some kind of job training.

Every 16-year-old who leaves school will receive a voucher, worth between $2,000 and $3,000, that can be cashed in for training. Only after the employer provides the training can it be reimbursed by the government.

"For 16-year-olds at a training program in Sheffield, the vocational center clearly met needs that the city school system did not."

Officials hope the voucher system will provide a better trained work force during the anticipated labor shortage of the '90s. Ironically, the experiment may fail precisely because of the labor shortage.

"Fifty percent of the 16-year-olds who leave school go to jobs without training," said John Cridland of the Confederation of British Industry, the group that is pushing

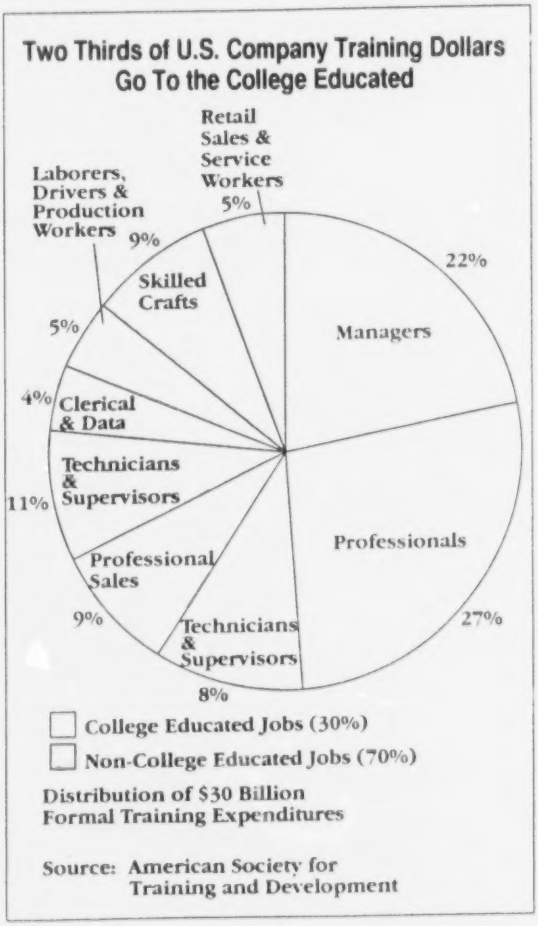
the voucher system. Retailers and small businesses hire the youths for dead-end jobs that pay $200 or so a week. This is a lot of money to a 16-year-old, but it leaves the youth with a bleak future if he or she never receives any type of training.

Cridland's group is hoping the training voucher, and its promise of a better-paying job in the years ahead, will be the carrot that will keep youths in some type of vocational education program at least until they're 18. Because the voucher can be cashed only in payment for a training program, "it gives the young person more bargaining power," he said.

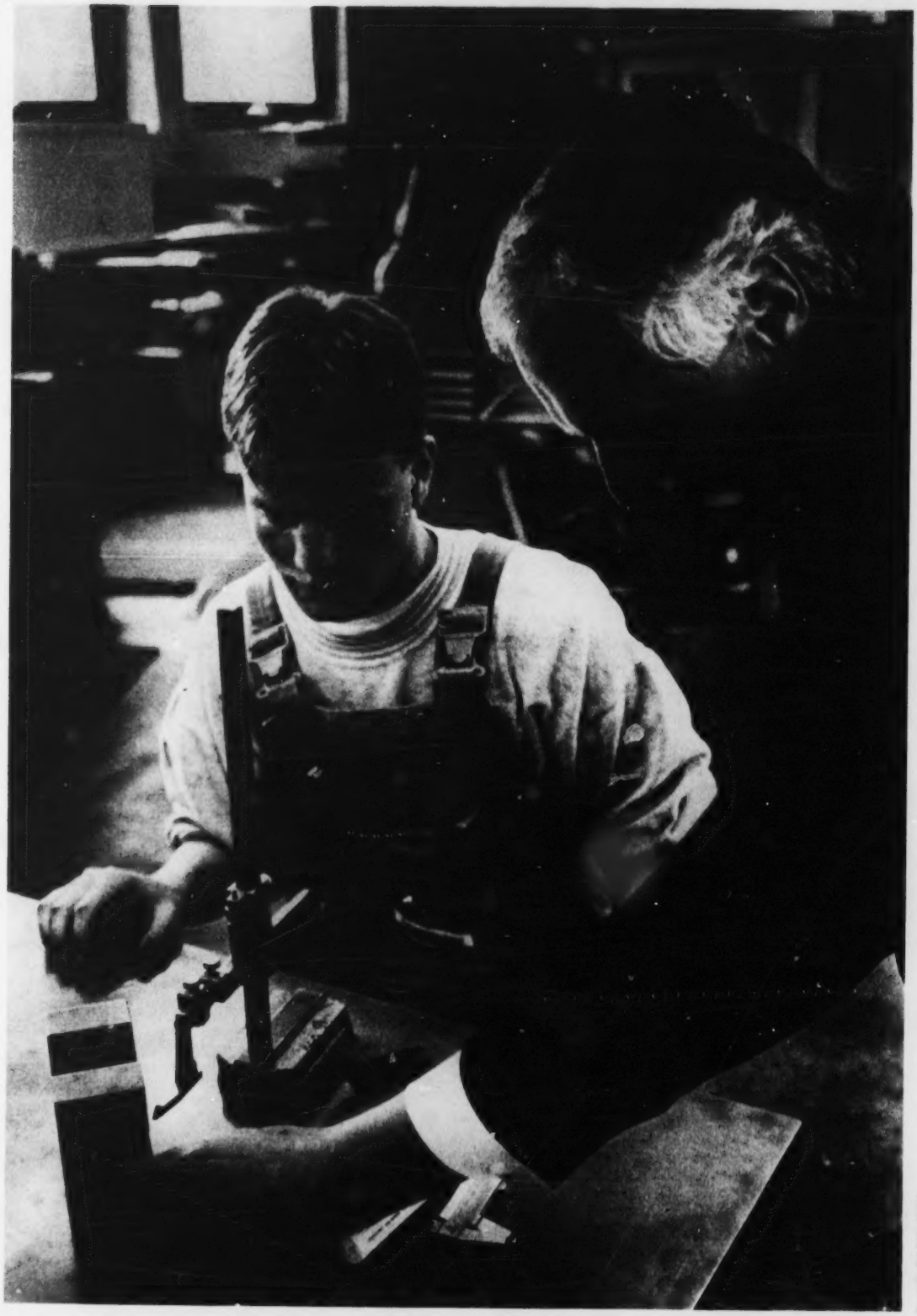
"We want to remove the choice of a job*or* training and replace it with a job*and* training," Cridland said.

The pilot program, which kicks off next Easter when vouchers will be issued to 10 percent of the nation's 16-year-olds, will be administered through a nationwide network of Training and Enterprise Councils which are taking over the coordination of both youth training and job training for older workers. The TECs are the latest government initiative to get employers to participate and invest in worker training — formerly the sole purview of government.

But one of the recurring themes raised by doubters is the fact that the government is cutting funding for training programs even as it promises greater results — raising again the question of whether the British government is in fact committed to worker training and willing to make the required investment to get results.



"The important point is the emphasis that is placed on the care and development of skills of the next generation, the concern about the livelihood of those already in jobs, and the commitment of employers, labor, and government to deal with the changes that are occurring."



DAVID BEDNAREK

Part II:
A Clipping File

Stories about the European experience from newspapers and other publications.

Reprinted with permission of the *Milwaukee Journal*.

Section **D**
Sunday
August 19, 1990

Business

State stocks
Page D7

Job training: US looks to Europe for solutions

By DAVID I. BEDNAREK
of The Journal staff

For the millions of young Americans who aren't college-bound, summer marks the beginning of their search for jobs.

They have completed high school, probably will never go to school again, and need to find work. They can't leave home without it.

But most young people in the United States will be looking for their first jobs without skills to offer an employer and without much help from adults or their schools.

This large and growing problem — for the nation's economy as well as for its youth — has US business executives, government policy-makers and educational experts casting about for new solutions. In doing so, more and more of them are looking to Europe and Asia for help in revamping education and training for the 50% or more of America's young people who don't go to college.

JOBS: The task at hand

"We ought not be so damn elitist in education that we can't learn from Europe," says Herbert Grover, Wisconsin's state superintendent of public instruction. "We've got to get away from the elitism in American education that everyone has to go to college. If we don't change, we ain't gonna make it."

In fact, the exodus of Americans to Europe to look at job training has been so strong lately that it recently led one German to quip that Germany's system of job apprenticeships may become its most famous export, surpassing Volkswagens, Mercedes-Benzes and BMWs.

And a bureaucrat in Copenhagen, besieged by Americans looking at Danish plans for training and retraining, suggested charging for the visits as a way to make money for his financially strapped agency.

What Americans are finding in their trips to Europe are countries where most young people leaving high school have skills they can sell, where work is an integral part of their schooling, and where almost all young people get jobs.

Unemployment rates for people under 25 in some of these countries are close to those of the older population, according to the most recent data available from the US Department of Labor's Bureau of Labor Statistics.

"We've got to get away from the elitism in American education that everyone has to go to college."
Herbert Grover

In Germany, for example, the unemployment rate for those under 25 is 7% while the overall rate is 6.4%. In the United Kingdom, it's 10% for those under 25 and 7.2% overall. The Swedish unemployment rate is 3% for those under 25 and 1.3% overall, figures so low that they probably mean everyone who wants a job has one.

In the US, the unemployment rate for those 25 or younger is 10% while the overall rate is 5.3%, but the rates vary from state to state and are often much higher for some groups in urban areas.

Comparison of the latest unemployment rates for teenagers — 16- to 19-year-olds looking for their first jobs — is even more revealing.

In the US, the rate for that group is 14.8%, compared with 3.2% in Sweden, 10.2% in the United Kingdom; and 6.2% for 14- to 19-year-olds in Germany.

In the central city of Milwaukee, the comparable rate is 18.7%.

Differences in the unemployment rates are only part of the story.

Please see **Europe** *page* **5**

Europe/US educators consider training programs to ease school-to-work transition

From page **1**

In Germany, about 70% of the young people who don't plan on college enter apprenticeships in which they learn job skills through a combination of work in plants or offices and work in school.

Not all of them stay in the trade or craft they learned. Some go on to the university, others start up their own businesses, and others take jobs in different fields. But all of them have acquired skills or work habits that will get them jobs.

Germany, with a population about one-fourth that of the US, has about 1.5 million young people in training for jobs. In 1979, the peak year for apprenticeships in the US, there were 323,866 registered apprentices. By last year, the number had dropped to 263,023, according to the US Bureau of Apprenticeship and Training and State Apprenticeship Councils. Wisconsin has about 7,000 persons in apprenticeships.

In Sweden, with its national goal of a job for everyone, training and retraining of people for jobs may well be the country's top priority, and provide everyone, including immigrants, with skills they can sell.

IDEAS FOR WISCONSIN

Grover came back from his trip to Germany so impressed with its apprenticeship system that he plans to push for such a program here.

Grover will help make the school-to-work transition a nationwide issue in 1990-'91 when he takes over as president of the Council of Chief State School Officers, an organization of the top educational leaders in every state. He's making the school-to-work transition a top priority of the group.

While no one suggests that Germany's dual system, or Sweden's nationwide retraining programs, or England's plethora of training and retraining ventures be transferred intact to the US, experts agree that the US must radically change the way it trains workers and runs its factories or face a precipitous drop in its standard of living.

"Too many high school graduates have no idea what they want to do," said Gerald Whitburn, secretary of the Wisconsin Department of Industry, Labor and Human Relations. "Many travel. Some just hang out. They poke at the edges of a career."

Because there is no link between school and work for those not going to college, Whitburn says, their search for jobs "will be like stepping into a black hole."

Their plight is underscored by the fact that a dozen nations now have overall wage scales higher than those in the US, and that the rate of poverty is higher here than it is in other major industrialized countries.

Since the early 1970s, real earnings of the non-college-educated have dropped 28%, according to a study by the Educational Testing Service, while the earnings of college graduates dropped 6%.

Ray Marshall, former secretary of labor and co-chairman of a blue-ribbon commission calling for fundamental changes in how US workers are trained and how US businesses are run, takes a similar view.

"If we consciously set out to design a system to encourage failure, the result would bear a striking similarity to what we have now," he concluded.

Many of these same experts have concluded that borrowing from European examples would be a step in the right direction for the US:

■ The Commission on the Skills of the American Workforce says all young people by age 16 should be required to earn a certificate of initial mastery, pegged to the highest standards in the world. The certificate would qualify the students for jobs, vocational training or college. The commission also said companies should be spending twice the $30 billion they spend now on training to keep workers up to date.

■ Saying that America has abandoned its high school graduates in their transition from school to work, the Educational Testing Service urges greater collaboration between employers and schools to improve education and preparation for work.

■ Carl Duisberg Society International, New York, a non-profit organization supported primarily by the German government to promote international exchanges in business, technology and education, says the US faces a crisis in the supply of skilled workers, eroding its ability to compete in the world. Through its Workforce Solutions program, the society will help business and schools adapt European approaches to training, arrange visits for Americans to Europe, and organize seminars on European training systems in the US.

■ The US General Accounting Office, at the request of two congressional committees, reviewed job training in England, Germany, Sweden and Japan. To avoid short-changing non-college youth, the GAO recommended programs to promote literacy, promotion of school-employer linkages through apprenticeships, and development of competency certifications for school and industry training programs.

■ The Progressive Policy Institute in Washington urges that all students be given information about a variety of jobs in grades seven to nine and choose an apprenticeship or vocational academic track in ninth grade.

Still to come is a system for teaching and assessing employability skills, which could serve as a credential for non-college-bound students. It's being developed by the American College Testing Co., Iowa City, along with the American Council on Education and the American Association of Community and Junior Colleges with assistance from business, industry, labor and other educational groups.

Secretary of Labor Elizabeth Dole has appointed a task force of 25 people, representing labor, industry and government, to suggest ways to expand apprenticeships in the US. The Labor Department also has created the Office of Work-Based Learning to support pilot apprenticeship projects.

Exploring job training in Europe

JOBS: The task at hand

Today, The Journal resumes a two-week examination of the work force of tomorrow.

Last week's stories dealt with life for businesses and workers in the grip of the labor squeeze. This week's stories will explain why Americans increasingly are looking to Europe for ideas on how to equip workers for stiffening global competition.

The stories this week also will appear in the Business section:

Monday: Germany's dual system of vocational training is a model for the world.

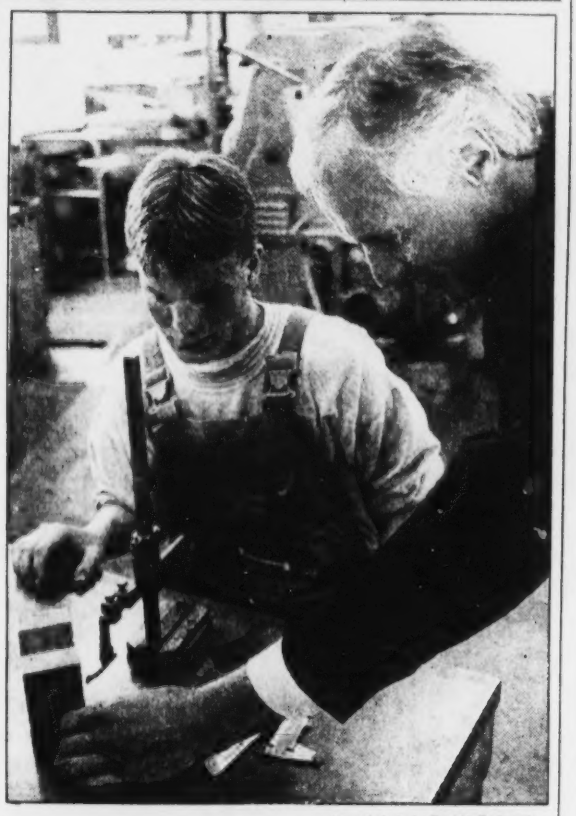
Tuesday: Sweden considers retraining an integral part of life.

Wednesday: Britain may be on the verge of succeeding in training its work force to meet international competition.

Thursday: The US does not have to reinvent the wheel to improve the training of its work force.

The reporter for the series is David I. Bednarek. He spent more than three weeks in Europe with a group of American journalists. Their trip was financed by the German Marshall Fund of the United States, an organization established in 1972 by West Germany as a memorial to the Marshall Plan. The fund promotes better understanding between the US and Europe.

Bednarek, 54, covers education and business issues, among other subjects, for The Journal's business news desk. He has worked for The Journal since 1966, including a long tenure as the paper's education reporter.



Journal photo by David I. Bednarek

APPRENTICE JAN Fiedermann (left) works with an instructor at Otto Tuchenhagen in Buchen, West Germany.

Skillfully crafted

Apprenticeship programs help employes learn, companies thrive

By DAVID I. BEDNAREK
of The Journal staff

Buchen, West Germany — Otto Tuchenhagen GmbH & Co. in this small town east of Hamburg calls itself a "factory of engineers."

The company displays that name in its logo on all its signs, its letterhead and employes' cards — a public acknowledgment of its pride in the training provided to its employes through its apprenticeships. Tuchenhagen's 1,100 employes are not just workers, they're engineers.

Tuchenhagen, which manufactures fluid control systems, has a small operation with 12 employes in Milwaukee, where Tuchenhagen systems sold in the US are assembled and given their final polishing.

Klaus Holtig is the master craftsman who runs Tuchenhagen's apprenticeship program where all workers are trained. Because Tuchenhagen is the biggest employer in the area, it also trains metalworkers for three other companies not large enough to handle apprenticeships.

In the first year, most of the work is in the laboratory or apprentice workshop. The second year is mostly spent on the factory floor and much of the third is spent in the workshop preparing for the final examination.

The apprenticeship also includes instruction in the theory of metalworking as well as a day or two a week in the nearby vocational school.

Overseeing it all is Holtig, who boasts that no one has failed to pass the program in his 17 years with it.

STEP BY STEP

Under his constant nurturing and tutoring, the apprentices build machines by hand, learning machining step by step, something they could not do if trained on the job, and they're tested all along the way.

Master craftsmen, like Holtig, who run apprenticeships are carefully screened before they're hired and then trained and monitored to make sure they have the right personalities for dealing with apprentices, said Knut Lorenzen, export manager for the company.

"You don't just shout at people

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Apprentices/Programs turn employes into craftsmen

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or kick them," Lorenzen said.

To avoid making mistakes on the job, workers need training with a craftsman on even such details as applying a little grease to stainless steel screws before fastening parts together.

"That's why you have apprentices," he said. If training is limited to on-the-job, he said, "you can only be as good as your foreman can show you. If that foreman is a fool, you won't learn anything."

LORENZEN

Part of their interest in running the apprenticeships could be self-serving. Susanna Mieth, daughter of H.O. Mieth, owner of the company, just began her apprenticeship at the plant.

A DIFFICULT TRANSITION

In Hamburg, apprenticeships and retraining of the work force played a critical role in changing the Amandus Keller plant, a small operation in a residential section.

Keller changed from an exporter of one product, film editing tables, to an exporter of machined parts for a number of industries all over the world.

"If we hadn't changed, we'd be dead today," said Michael Kayser, head of the company and the only university-educated person in the plant. The company is too small and too poor to have a large number of engineers on staff, so line workers must do the job.

Keller's changeover to new products meant difficult changes for employes, Kayser said. "They all are doing jobs today they had not known 10 years ago."

Workers, who had been trained on old machines as apprentices at Keller, were offered the opportunity to learn how to run the new machines.

Some of the 20 workers were good, including 12 young people who were looking to the future, he said. Some initially refused to learn how to run new machines, but eventually went along with the idea and are still at the plant.

Workers now are training new workers. The most experienced workers set up machines to do jobs, and the less experienced workers take over in monitoring the machines.

Despite having just 38 employes, Keller completed training for 12 or 13 apprentices last year, of whom six or seven stayed at the plant, Kayser said. Keller is training three apprentices now.

The company needs to run its own apprenticeship program to get the workers it needs, Kayser said. "This is the only way. This is symptomatic of all companies in Germany."

Trained youth design the future of Germany

While many apprentices choose another career, their experience counts

By DAVID I. BEDNAREK
of The Journal staff

Second in a series

Hamburg, West Germany — One of the young people in the Chamber of Crafts building here is a bricklayer who hopes to run his own company some day. Another is a hairdresser who likes the idea of working as a graphic designer. A third is an auto mechanic who has liked fixing things since he was 10 and says he never wants to do anything else.

All are apprentices in West Germany's highly touted dual system of vocational training, a program that many see as the model for reforming educational and training systems around the world.

Rooted in several hundred years of tradition, the dual system prepares about 70% of Germany's young people for work starting at age 16 through a combination of academic or theoretical work and practical or applied work on the job.

Not all stay in the jobs for which they were trained or in the companies that trained them, and no one here seems to care.

Apprentices don't learn just narrow skills, but broader ones that reduce the amount of retraining they will need on the job. Regardless of the trade, they also acquire good attitudes toward work, respect for fellow workers and punctuality.

The students see the training as valuable in itself, regardless of how it's used, and the companies that lose some of their apprentices expect to get apprentices or well-trained workers from other firms.

Stefan Bruggemann, 21, who is completing his apprenticeship as a bricklayer, said he had no idea what he wanted to do when he was 16. He attended a Gymnasium, an academic high school, for two years before becoming an apprentice bricklayer in a company owned by one of his parents' friends, a master bricklayer.

"I don't want to stay put as a bricklayer," he said. "I want to study after that."

His options include becoming an engineer, a technician or master craftsman so he can start his own company, or even a vocational teacher. But he wants to learn a trade first.

As an apprentice, Bruggemann earned about $460 a month his first year, about $700 a month the second year and $900 a month now. If he's good, he says he'll start at about $1,500 a month.

Being Creative

Michelle Hammond, 19, the apprentice hairdresser, does not want to work as a hairdresser but likes the creative aspects of the job.

Hammond, who moved to Hamburg from England 10 years ago, really wants to become a graphic designer but took the apprenticeship because it was available. She ended up liking it because it connects school with work.

"You get to see different sides of life," she said. "You meet a lot of different people."

Comparing the dual system to that in England, she said her brother and friends went through five or six programs in England but had nothing after all of it. "It's too easy to live off your parents," she said.

As an apprentice hairdresser, Michelle earns about $190 a month in her first year and will get about $360 a month in her third year. The pay is considerably less than that of a bricklayer because Germany is trying to get more people into construction work.

JOBS: The task at hand

Matthias Bunger, 19, said he decided at age 10 that he wanted to be a car mechanic and hadn't changed his mind. He was always interested in how things work.

Bunger wants to work as a mechanic for a while, save some money, then go into the army, as all West Germans are required to do. His monthly pay as an apprentice auto mechanic is about $335 the first year, $425 the second year and $470 the third year.

Advertising people, company owners and corporate executives, as well as people in the crafts and trades, completed apprenticeships in the dual system.

The pervasiveness, in fact, is what impresses people like Sir Geoffrey Holland, Britain's secretary of state. In London, Holland said he liked Germany's system because parents respected it, and because it was thorough, covered everyone, and graduated four times as many apprentices as in Britain.

In Sweden, the government is getting away from apprenticeships because it wants more open opportunity, more flexibility in training people for jobs. However, vocational students, who make up about two-thirds of all students, spend time both in schools and factories and students begin learning about work in the fourth grade, gradually increasing their exposure to work as they go through school.

Denmark, on the other hand, is trying to incorporate parts of the apprenticeship idea into its new training system, and German-style apprenticeships are gaining favorable recognition in Wisconsin and other states.

Hartmut Welzel, who spent most of his career as head of training with the Ford Motor Co., Cologne, is skeptical of exporting Germany's dual system to other countries, although he admits, "The dual system is becoming one of Germany's most famous exports."

Welzel, who is retired from Ford, now lives part of the year in an old, red-brick, thatched roof farmhouse near Flensburg at the northern tip of West Germany. From there he travels around the world to consult on training and Germany's dual system in places like Egypt, Botswana, several Third World countries and East Germany.

He sees some obstacles to exporting the dual system to the US and elsewhere.

One is how people in other countries view craftsmen.

"In Germany, being a craftsman has always been prestigious," he said. In social circles, the master craftsman is comparable to a businessman, a tradition that goes back to the Middle Ages.

"If you are a trained craftsman, you don't worry about your future," he said. "A good craftsman can do anything."

Welzel, for example, was sent to typography school before the university where he eventually earned a degree in economics. "I can always make a living as a typographer," he said.

Joe Kortuem, customer relations manager at German-owned Krones Inc. in Franklin, Wis., served an apprenticeship in a brewery before immigrating to the US in 1962.

"It was the best thing that ever happened to me," he said of his training, and it helped prepare him for his present job as well as somewhat related jobs along the way.

Industry Support

Another potential obstacle to exporting the dual system is industry's support of apprenticeship programs, an essential ingredient in its success.

In West Germany, businesses don't care if the worker stays.

"In training, we don't compete," Welzel said. "We exchange apprentices. It's done cooperatively."

As in Denmark and Sweden, business, labor and government in Germany seem to get along, losing very little time because of confrontations between plant managers and unions.

"It takes time, it's cumbersome, but when it works, it succeeds and provides for industrial peace and cooperation," he said.

Next: Sweden considers retraining an integral part of life.

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Journal photo by David I. Bednarek

JOHN CONRAD, 35, a former Connecticut resident who now lives in Sweden, is training for a new career as a process technician for a manufacturer. Conrad is one of thousands of residents who train for new jobs.

Swedish retraining gives workers job flexibility

National programs make changing careers financially feasible

Third in a series

By DAVID I. BEDNAREK
of The Journal staff

Stockholm, Sweden — John Conrad, an American from Connecticut who has lived in Sweden for the last five years, knows firsthand the difference between finding a new career in Sweden and the US.

And he prefers Sweden, where he lives with his Swedish wife, Catorina, an office worker.

After years of shifting from jobs as janitor to car mechanic to boat mechanic, Conrad, 35, is in training to be a process technician, one who controls and regulates manufacturing processes. It's the kind of training he might get in a vocational school in the US, but with some big differences.

He's being paid while he's in training. If he were a union member, as 85% of the Swedes are, his pay would be based on what he had earned in his former job. The pay is barely enough to get by, but he says he could not be in retraining without it.

Another person among the 1,200 in training in a sprawling complex of buildings here known as AMU is Anita Persson, a former airline flight attendant.

Persson, 42, who lived in the US for 19 years, returned to her native Stockholm for a new start in a new job — something that would have been difficult if not impossible in the US.

Tired of airline work, she was able to consider a variety of retraining possibilities here before enrolling in a 47-week course in language, computers and bookkeeping — skills she hopes will prepare her for work with an international company.

JOBS: The task at hand

The stipend, though minimal, makes the retraining possible, she said, but conceded, "It is tough."

INTERNATIONAL FLAVOR

Walking around the training center is a little like walking through a workshop at the United Nations.

At any one time, there are 70 to 90 languages being spoken at AMU, a reflection of the fact that about 50% of those in training are new immigrants from countries around the world who need it to get jobs.

The trainees, whose average age is 30, also include school dropouts, people who lost their jobs, people seeking new careers, and people who need new jobs because of illness or personal problems.

Training programs cover the gamut — electronics courses, carpentry, welding, operation of computer-controlled machines, bookkeeping, secretarial skills — you name it, the centers offer it. In addition, the centers offer classes in Swedish and basic literacy.

Some training sites are regular classrooms. Others look and smell like factories. And those where carpenters, electricians and plasterers are trained look just like houses under construction. When necessary, training is conducted at the actual work site.

"These are really big workshops," said Ulla Engstrom, who is in charge of marketing training courses to companies. "We try to make it as real as possible. We want to be on the factory floor."

There are about 100 of these centers throughout the country staffed by 6,000 employes, mostly teachers, who train about 80,000 workers a year. Another 45,000 to 50,000 workers get training outside AMU in schools or companies.

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Since 1986, as part of widespread reorganization of service delivery in Sweden, including privatization of some government programs, AMU must sell and market its training programs. It no longer gets direct support from the government.

One effect of this has been to cut down on the training bought by the government and to increase the amount of training bought by companies to about $2.7 million last year. Engstrom intends to increase this to about $4.2 million this year.

Sweden, which has virtually no unemployment because the rate is so low, considers retraining an integral part of life for its work force of some 4.5 million people.

If you lose your job here, you go to the employment office to get a new job. If you don't find one, you discuss your potential with job counselors.

If there's no job available, you get some cash, but other measures kick in at the same time. These include job training financed by the National Labor Market Board, known as AMS here, or what Americans would call an employment service, and relief work — work created by government that needs to be done but which no one is doing.

Sweden spends a lot on retraining — about 2% of its gross national product, according to the Organization for Economic Cooperation and Development. Because almost 70% of Sweden's labor market budget goes to retraining and 30% to unemployment compensation, Sweden's spending on retraining far exceeds that of the 15 other countries in the OECD.

In contrast, the US spends about a quarter of 1% of its gross national product on retraining, and Germany spends a little more than 1%.

In Germany, retraining mainly deals with the unskilled — foreign workers and older workers who grew up during World War II when regular training was impossible. Hartmut Welzel, former head of training for Ford Motor Co. in Cologne, Germany, said Ford ran its own retraining programs because retraining at the government labor agency and in schools led to a dead end.

In the US, the AFL-CIO says unions must take an active role in training displaced workers for new jobs because federal and state programs generally take too long and focus on job searches instead of upgrading workers' skills for new jobs.

COOPERATION

Ideally, labor leaders say that successful programs must rely on close cooperation among unions, businesses and government — the tripartite model that has worked so well in most of Europe.

In Sweden, business, labor and government cooperate in running training and retraining. The three agree on what should be done, who should do it, and how to do it.

Courses are designed with the help of boards representing unions and employers who make sure that training is up to date and needed. Engstrom said, "so we don't educate people to unemployment.

The unions and employers tell people what's needed and provide training for existing jobs, she said.

This kind of cooperation among employers, unions and government led to the closing of a hotel and catering training program because of low demand for the graduates. The cooperation also means that the employment service has its own employes working at the training center so they can hire workers on the spot.

Clarence Kopparberg, who is responsible for the training of almost everyone at AMU, said 85% of the trainees got jobs for which they were trained, and the percentage is getting even higher because of close cooperation between the center and companies.

Although Conrad, the former Connecticut resident, likes the universal five weeks of vacation in Sweden and maternity leaves with pay, he said there was a feeling now that government was too big, cost too much and was too involved in people's lives.

While he was in Baltimore for his brother's wedding earlier this year, he said he was sickened by the burned out buildings he saw, the extreme poverty in some areas and the extreme wealth in others.

"You don't see that here," he said.

But he's not ready to say he prefers all aspects of the Swedish system. He has retained his American citizenship.

"There's a degree of energy and vitality there you don't find here," he said.

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Job policies strain firms in Sweden

Absenteeism blamed for declining productivity

By DAVID I. BEDNAREK
of The Journal staff

Gothenburg, Sweden — Sweden's liberal employment practices and a national goal of a job for everyone are casting a shadow over this workers' paradise.

With an unemployment rate of 1.4%, it's so easy to get a job or change jobs that many young people work for a while and then take off for a year or two to travel, making employers feel they have no hold over their employes.

Complaints of high absenteeism and excessive sick leave are commonplace and frequently blamed for declining productivity in companies that mean Sweden to a lot of people around the world — Volvo Car Corp. and SKF, the world's biggest ball bearing manufacturer.

Turnover of 19% at Volvo means the car maker must replace about 2,000 workers a year at a cost of $13,000 each, a total of $26 million. And cost is only part of the problem; maintaining quality with large numbers of new employes is even more serious.

In addition, taxes that average more than half of one's salary are said to be sapping people's incentive to work hard. The goal in the current wave of tax reform is to have workers keep 50% of their wages; they keep about 45% now.

Eva Skarman, senior administrative officer with the employment training division of the National Labor Market Board in Stockholm, concedes that unemployment is too low and may have pushed inflation too high.

"We don't like the high taxes we have in Sweden," she said. "That's a fact. But we like the social welfare and the social policies we have built up over the years."

On a personal level, Skarman said two of her friends in the US, both teachers in Wyoming with jobs similar to hers, had twice as much money to spend.

Her attitude is reflected to a degree in neighboring Denmark, where taxes are just as high.

Morten Knudsen, director of the Technological Institute in Copenhagen, pays 70% of his income in taxes, a rate well above average. But he takes solace in the fact that taxes paid for his children's university educations and his brother's recent heart surgery.

"Take from the rich and give to the poor," he said. "That's OK with me."

Taxed Profits

But the taxes and employment practices are taking their toll on profits.

Both Volvo and SKF have their

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Workers/Swedish firms try to incite job interest

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world headquarters here but executives of both companies, airing nearly identical complaints, say their plants here are not doing well.

Some say the complaints are politically motivated because business is lobbying for lower taxes and changes in employment practices.

Knudsen in Copenhagen says you can hear the same thing from reactionary politicians in Denmark. It's a problem especially among young people who have not learned the joy of working, he said.

"If you're doing the same job day after day, you are sick physically and mentally," he said. "We have not been accustomed to thinking those ways."

Barbro Karlsson, an ombudsman with the Swedish Trade Union Confederation, attributed at least part of the sick leave to the large number of women with children in the work force. More than 80% of the women in Sweden are in the labor force, a higher percentage than in any other country in the Organization for Economic Cooperation and Development.

Nevertheless, some of industry's complaints do have a basis in fact.

About 25% of the employes at SKF are absent each day, in part because of the liberal and generally unlimited sick leave policies mandated by the Swedish government. In comparison, absenteeism is 6% to 8% at SKF plants in the United Kingdom, Germany and Italy.

The huge Volvo plant needs about 6,000 workers to operate at capacity, but it must have 8,700 employes on the rolls because of high absenteeism. On one day last spring, 16% of the employes were absent and another 11% were out because of pregnancy or military service.

SKF lost about $4 million in 1988 and about $9 million in 1989 at its Swedish operations, which make up less than 10% of the company's worldwide operations, according to Janerik Dimming, manager of communications. Had productivity here merely equaled the average of other European operations, the Swedish operation would have made more than $30 million.

"In spite of this system, most come to work every day," Dimming said.

Of 3,300 workers at SKF, about 1,000 take no sick leave at all, another 1,000 take one or two days a year, about 1,100 take three or more days a year, and 200, generally the younger workers, take many days a year.

"I think this system is rotten," he said. "It stinks."

Lobbying for Changes

SKF and other employers are lobbying heavily for changes in the law that would lower pay for the first day of an illness, or provide no pay at all for the first three days of sick leave and require a doctor's excuse for sick leave.

The goal is to cut turnover and sick leave in half by the end of 1991, Dimming said. "If we don't succeed, you won't invest much more new business in Sweden."

Lars Andersson, public relations manager for Volvo, said Swedish industries were having trouble competing with the Germans and Japanese. The Germans, for example, have high labor costs, but also have high productivity, low absenteeism and low turnover.

Sick leave at Volvo's plant in Belgium is 3% to 4% and there's almost no turnover, Andersson said, in part because overall unemployment in Belgium is close to 10%.

As in SKF, a relatively small number of workers take almost all the sick leave. Andersson said 25% of the workers took 97% of the sick leave, and the government has set up an office in the Volvo plant to learn more about the employes who have taken 30 days or more of sick leave.

The pessimistic view, according to Christer Wikfeldt of the Swedish Employers Federation in Stockholm, is that Sweden's main export 10 years from now will be folklore, and that people will come to Sweden only for trips into the wilderness of northern Sweden.

But most don't feel that way, he said. "People in general are very optimistic."

With the developments in Eastern Europe and the elimination of trade barriers in most of Western Europe in 1992, he said the potential was great for developing industry and improving business.

Interesting Workers

The future of Volvo and SKF will depend on how successful they and unions, which represent between 80% and 90% of all Swedish workers, are in making industrial work more interesting to young workers.

"If we don't do this, we won't have any industry left in Sweden," SKF's Dimming said.

SKF's "Plans for the '90s" include teaching blue-collar workers about machine maintenance, quality control, planning, hiring and firing, and even cleaning up, Dimming said, "so they broaden every day at work."

The company has about 800 workers in eight to 10 such groups or "islands" now and turnover has declined sharply, but Dimming said it was too early to say whether the new system was efficient.

The biggest task was getting workers to take jobs that had been kept separate for years, he said. "It was even worse than the Berlin Wall."

Volvo also is changing the way it does things to keep workers satisfied and in their jobs. Changes include eliminating much welding by people and tilting car bodies as they are assembled so workers can work on them more easily.

However, the plant in Uddevalla where teams of workers assemble cars is not yet that successful after a year of operation, Andersson said. "The theory did not survive reality."

With a work force that's 40% female — a percentage almost double that of Volvo overall — the plant also has problems with turnover, he said. "We have hard times ahead. People will worry about losing jobs again."

FINCH

Lars I. Cambert, manager of personnel and technological development, said Volvo began to orient children to industrial jobs at age 11 or 12 with weeklong visits. In addition, 300 to 500 young people work in the plant here during the summer at regular wages.

Next is the more difficult task of introducing an apprenticeship program at Volvo.

Margareta Regnell, of the Swedish Employers Federation, said schools throughout Sweden focused on working life through teaching about work in the area, field trips to work places, and visits to parents at work.

She said Sweden was considering adding a year to formal schooling and having students spend 60% of the additional year in the workplace.

SKF also is running its own school, one of the few companies to do so.

The 100 students, 12 girls and 88 boys, are learning metal cutting and machining, controlled by computers, and electronics through a combination of academics and hands-on work in the factory. Students get paid $5 to $6 an hour while attending the SKF school.

Annika Finch, 18, whose father works at SKF, says she understands subjects better than her friends in the regular high school but is not sure she wants to stay at SKF or in the work for which she's being trained.

"The track is so broad," she said.

SPECIAL REPORT

British plan breaks from tradition

Job programs challenge education priorities

By DAVID I. BEDNAREK
of The Journal staff

London, England — After decades of fighting tradition and inertia, Britain may be on the brink of solving many of its problems in training its work force, cutting unemployment and meeting the threat of international competition.

The rosy picture painted by some here stems as much from a growing demand for workers, coupled with a 28% decline in the population of young job seekers over the last decade, as from a plethora of new training programs scattered around the country.

But not everyone agrees with that view, and many critics say that Britain's traditional preoccupation with the college-going elite ultimately will kill attempts at reform.

JOBS: The task at hand

Sir Geoffrey Holland, permanent secretary of state for employment, claims youth unemployment has seen a dramatic turnaround — falling to virtually zero in some areas — putting young job seekers in a buyer's market that should run into the 1990s. In addition, about 400,000 youth, more than ever before, are in training for jobs.

This turnaround happened in a country where unemployment had been 25% to 30% in the 16 to 18 age group, and where some pessimistic school superintendents once described their job as training people for lifetimes of unemployment.

Student performance lagged well behind that of students in Germany and Japan. Most young people left formal schooling at age 16 with only 30% in school at age 18. Sixteen percent of youth 18 to 24 are in full-time higher education.

Problems remain but hope exists, so that Holland now considers realistic such goals as keeping all students in formal education or training until 18, and doubling the number in higher education by 2000.

"We do not have a youth unemployment problem in this country," Holland said at lunch recently with a group of American reporters. "Concern with youth unemployment is irrelevant. Their problem is going to be choice."

"Everybody is fishing furiously in a smaller pool of young people," he said.

NATIONAL ISSUE

Holland attributes much of the improvement to the Education Reform Act of 1988, which legislates a

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Training/Britain, firms sponsor education reform

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national curriculum and system of assessment, local management of schools, open enrollment, and creation of 20 technical schools with the help of business to train people in science and technology.

Strongly supported by the Confederation of British Industry, the national curriculum is expected to help employers by providing them with a better prepared work force and an educational system relevant to the needs of industry.

Less optimistic about recent changes is Robert Taylor, correspondent for the Financial Times in Stockholm.

He fears the reforms and changes won't take hold because of England's 100-year history of lousy training and education and an apprenticeship system that has disintegrated because employers won't support it.

The English see training as something for the "thickies" or thickheads, he said. Education is for the brighter people.

Michael Prowse, editorial and feature writer for the Financial Times, said schools were geared toward the top 20%, and the people he knew were not generally optimistic about changing that or improving schools.

"We have slipped behind the rest of Europe over the last decade," he said, and the jobs lost in the early 1980s have been replaced by jobs that pay much less.

BORROWING FROM GERMANY

While conceding problems with tradition and inertia, John Cridland, deputy director for employment and training for the Confederation of British Industry, said England was putting together "a version of the German dual system built on British foundations."

This involves reforming schools, setting nationwide standards in all

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occupations, and training young people to meet those standards — all of which are in place or getting started.

Britain, like the US, cannot copy Germany's entire dual system, he said. "We have to produce our version of it."

New programs can keep young people in training or in school until 18, and begin to remove the stigma attached to vocational education, he said. "We've got to give equal esteem to vocational studies."

THE ROLE OF INDUSTRY

In revamping its training programs, Britain is banking on Training and Enterprise Councils being set up throughout the country — 82 in England and Wales and 20 in Scotland.

Modeled at the start after the Private Industry Councils in the US, the TECs, financed by government and business, are going beyond what their US counterparts are doing, particularly in attracting support from the leaders of British business.

About 1,100 chief executive officers — not their assistants or replacements — are serving on the councils, guiding both education and training, assisting the start-up of new businesses, and promoting investment in existing businesses.

Ten of the 15 council members by law must be CEOs. The other five include educators, politicians, and volunteers from the community. The strong support from business, which must have better trained workers to survive, may be the key to the TECs' success.

Catherine N. Stratton, special adviser to the secretary of state for employment and former director of the Private Industry Council in Boston, said the TEC in Sheffield had CEOs waiting to join.

"Half of them are out of the Tory party," she said. "You've let a tiger out of the tank."

One of the TECs' first tasks is running a new system of training credits or vouchers, which will give young people leaving school money they can use to buy education or training from an employer or other provider of training.

Fourth in a series

In the first wave, set to start next spring, some 45,000 16- and 17-year-olds will get grants averaging $1,500 to buy training. The goal by the year 2000, Cridland said, is to have 50% of the young people being fully skilled technicians or professionals by age 18, equivalent to graduates of the German dual system.

Even before all the TECs are organized, the budget for them is being trimmed, leading to speculation that some in government are not taking the program seriously.

Alistair Graham, a former union leader who now heads the Industrial Society, a private training provider, supports the TECs because senior executives are on board. However, he said no evidence existed that employers would put additional money into training that did not benefit them directly.

"We have slipped behind the rest of Europe over the last decade."

Financial Times writer

Cridland admits the budget cuts by the government could hurt the TECs, but says, "It hasn't sunk the fleet. They will stay but with less money."

TRAINING IN READING

The Thames Valley TEC in Reading, the center of Britain's computer industry, is up and running, getting 40 to 50 calls a day from job seekers and others.

Outside the TEC offices in buildings around the city, recent graduates, women who have been out of work for a time and disabled people, are being trained for computer jobs through a combination of classroom work and work in plants and offices. While in training, the students get allowances.

Joyce Winchcombe, for example, who has been at home since 1976 with her child, is learning to run a computer to get a job to help pay off the mortgage.

"I needed to wake my brain up again," she said. "It was going to sleep."

And Mike Ward, who was a construction surveyor until multiple sclerosis made the work impossible, is learning how to use computers in the construction industry, an idea just beginning to catch on.

"I've got to make my own chances," he said.

The TECs and other reforms are an attempt to establish a connection between what happens in education and what happens in work, dispelling the notion that school is only for the college bound, according to Jeremy B. Surr, director of operations and TEC development for the training agency in Sheffield.

Until the current initiatives, if one were not university-bound, he said, "by about 12 you had it. You were literally wasting your time."

In Sheffield, where the TEC is helping new businesses get started and helping train new workers, Richard D. Field, chairman of J. & J. Dyson Plc, a diversified manufacturer, spends three days a week, or about half his time, at the TEC.

"It's the most important project we have in the UK at the moment and the window of opportunity is disappearing," he said.

Next: The US won't have to reinvent the wheel to improve the training of its work force.

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Thursday
August 23, 1990 *

Business

SPECIAL REPORT

US has the tools to expand existing training programs

But attitudes toward blue-collar work slow acceptance of programs

By DAVID I. BEDNAREK
of The Journal staff

The United States does not have to reinvent the wheel to improve the training and retraining of its work force to meet the international competition of the 1990s.

A plethora of programs to do just that already exist in Wisconsin and many other states.

The problem is how to expand these programs, or make it easier for people to get into them. That, and changing the attitude that most Americans seem to have toward blue-collar work and training related to it.

JOBS: The task at hand

The US will never match the centuries of tradition with apprentices that Germans have, or the European reverence for craftsmanship and work, or the nationwide commitment to retraining and full employment that the Swedes have.

But the US does have apprenticeships in most if not all states, many excellent vocational schools, retraining programs that work and companies that are committing money to training and organizing their operations to take advantage of it.

There just aren't enough of them.

The US also has high schools that are successful in preparing students for work or college, but too many students fall through the cracks, acquiring neither basic skills nor the academic basis for further education.

"Most [parents] dream of a university education for their children. It's not an easy thing to change."
Dwight York

Wauwatosa's Business and Education Network, for example, publishes a leaflet giving parents tips on handling their children's work outside school and students begin learning about the working world in grade school. Wauwatosa students also can take part in supervised work-study programs but the high schools there, as in most suburbs, devote most of their effort to preparing students for college.

Many Wisconsin high schools also have vocational education coordinators who could, with support from parents and employers and more time for vocational training, prepare more students for jobs.

CERTIFICATE PROGRAMS

Although politically difficult, the best way to get young people started on the road to skilled jobs may be the proposal by the National Commission on the Skills of the American Workforce to require all students to earn a certificate of initial mastery by age 16.

Such certificates, if accompanied by programs including special schools to make sure all young people can meet the new rigorous standard, would address the widespread complaints that many young Americans lack basic skills in reading, writing and mathematics.

But getting more young people into apprenticeships and vocational training would require a major shift in attitude among American people, according to Dwight York, director of the state board of Vocational, Technical and Adult Education.

"Very few parents out there want their children to go into a trade from early on," he said. "Most dream of a university education for their children. It's not an easy thing to change."

Herbert Grover, state superintendent of public instruction, could not agree more and went another step in urging Wisconsin educators to consider programing kids into different vocational tracks as early as sixth grade and exposing them to the idea of work even earlier.

"We need to instill the idea that all of us will work from kindergarten and on," he said. "The straight academic program doesn't do the job."

More than half the high school graduates in Wisconsin go on to college, but only half of those make it to a degree, he said. That means

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Training/Educators weigh tracking plans

From page **10**

that about 70% of the state's high school graduates need preparation for jobs that most are not getting.

"It's a very fundamental, philosophical change in the American educational condition," Grover admitted, saying that the idea goes against basic assumptions in American education.

"It requires early choice," he said. "It demands tracking. It requires segregation before the age of 18. And it does not give everyone a chance to fail in higher education."

But the alternative is allowing more than half the young people in the state to fend for themselves in finding their careers.

TRACKING STUDENTS

Grover has set up a task force to look at the needs of young people who are not going to college and wants high schools to set up three parallel tracks — one for the college-bound, one to prepare students for technical jobs and a third to prepare students for vocational programs or apprenticeships.

Grover's proposal clearly resembles the German system and represents his idea for meeting the needs of the majority of young people who don't go to college. Without such changes, Wisconsin high schools and most of those in the rest of the US will continue to do what they do now — prepare some students for college, and little else.

Gerald Whitburn, secretary of the Wisconsin Department of Labor, Industry and Human Relations, said vocational education

GROVER

WHITBURN

was not second-class and that myth had to be dispelled.

"Not everyone will go to college and not everyone who does will finish," he said. "We need to stress the importance, worth and dignity of blue-collar work. It's almost un-American to suggest it, but not all students are likely to be scholars. And what we are talking about is making winners out of ordinary students."

A recent survey found that Milwaukee Area Technical College, while enjoying a good reputation in the community, is seen either as a training ground for needed technical skills or as an extension of high school for students who aren't "college material."

Parents who were interviewed said they appreciated MATC but preferred to send their children to a four-year college.

"The thing that continued to be a struggle is the public values placed on technical occupations," said David W. Grypp, MATC director of marketing and community relations. "It's a major question we face on a national scale.

The time may be ripe for reform because top corporate leaders say

Last in a series

they can't find qualified workers, and this could provide the push to get something done.

The problem business faces in finding workers is almost certain to get worse. After growing at the rate of 3% or so for decades, the work force is growing at a 50-year low — about 1% a year.

A recent survey of Milwaukee area employers found education reform to be their No. 1 issue facing the city and state, ranking ahead of health care costs, taxes and business regulation.

Top business groups, such as the National Alliance of Business, are committed to improving education, giving business people around the country advice and financial support for programs to upgrade schools.

For Grover, the push by business for improving schools is essential.

"The business community has to drive this thing," Grover said.

In addition to providing the demand for the newly trained students, business will be expected to continue and probably increase its support of training programs, including assuming a large role in apprenticeships.

Grover also expects support from organized labor stemming from the same source, the shrinking of the labor force.

"We have a labor shortage," he said. "The kids are not a threat to organized labor."

SECTION C
SUNDAY,
OCTOBER 14, 1990

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How Europeans link school and work

Staff writer Charisse L. Grant, who reports on education for The Herald, traveled to West Germany, Sweden and Great Britain to look at education and job training programs — a trip sponsored by the Education Writers Association with a grant from the German Marshall Fund.

Grant

By CHARISSE L. GRANT

The West German youth turned his intent gaze away from the sports car engine to explain why someone like him, a graduate of the country's top education tier, would spend three years training to be an auto mechanic.

Study hall for Fritz Yorks was a Hamburg dealership with a chassis lying outside a classroom where students hover over circuit boards. Wall posters depict skills the federal government says they must master to become certified journeymen.

The image of a college-qualified, 23-year-old fawning over the oily insides of a Jaguar didn't fit my admittedly biased stereotype against "voc-ed." His explanation only confused the issue.

"I didn't go onto University yet because I wanted a profession," said Yorks, an apprentice at Vidal & Sohn Jaguar and Mercedes Benz dealership.

In the States, Yorks would likely be in an MBA program learning how to run the automotive industry, not learning how to make an automobile run. But in West Germany, these apprenticeships, part of the country's renown "dual-system" of education, are the common route to professions.

It is the system's successful fusion of rigorous academics with practical training that has left frustrated American educators, politicians and business leaders pointing abroad and crying "Why can't we . . . ?"

Early this year, I joined five reporters on a brief trip to West Germany, Sweden and Great Britain to look at education and job training programs. The Education Writers Association, based in Washington, organized the trip with a grant from the German Marshall Fund — an American-run private foundation that sponsors exchange programs with European countries to study common issues.

The educational system in each country we visited had obvious flaws of its own. Their school policies and programs are rooted in economic and cultural contexts

PLEASE SEE **EDUCATION, 5C**

The European countries offer a critical lesson that has begun to influence the school reform movement in America, including Florida: Future economic prosperity depends on a closer relationship between school and work.

EDUCATION, *FROM* **1C**

quite different from the United States.

But the countries offer a critical lesson that has begun to influence the school reform movement in America, including Florida: Future economic prosperity depends on a closer relationship between school and work.

Only half of American students go onto college. The other "forgotten half" are basically left to fend for themselves. They must find their way through a fragmented job-assistance system to enter a labor market where employers have little faith in the value of their high school diploma.

West Germany and Sweden's systems account for the reality that not every student pursues higher education. Practical job training and socialization to work are clearly stated, fundamental missions of public education. Well-developed vocational programs offer students a way to receive training and earn credentials that employers value.

The SKF ball-bearing headquarters in Gothenburg, Sweden, has become a showpiece for tours like ours. Tucked inside the rows of red-brick factory buildings is one of the city's vocational high schools. About 100 students split their time between general education and studying principles of mechanical engineering as they learn to service the factory's computer-controlled equipment.

"We get paid, that's a pretty important thing," said Hahns Ohlsson, 18. "It's hard. We study four years' worth of work in three years' time. Other companies outside know we're well trained. I know that I'll always be able to get a job in the future."

The SKF school is an extreme example of the country's school-business partnerships. Swedish education officials generally don't believe companies should have the lead role in education. Instead, Sweden's upper-secondary schools, which begin at age 17, offer broad training in two dozen fields such as social services, manufacturing, economics and forestry.

Even before students finish compulsory school at 16, career and work orientation are nationally mandated parts of every child's curriculum. Students must complete six to 10 weeks of work experience, such as visiting and working for free at companies.

The West German dual-system is a centuries-old tradition that has left virtually no line between the school and workplace. Students attend between nine and 13 years of compulsory school, depending on which of three ability tracks they are placed in at age 10.

The government's employment agency, school counselors and labor unions provide a central network for finding apprenticeships in more than 400 certified fields ranging from

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How Europeans link schools and work

auto mechanics, to banking, baking and journalism. Apprentices sign formal contracts of at least three years at a union-negotiated "training" wage.

Students spend only 13 weeks a year in the public school classrooms studying German, math, civics, English and the theoretical end of their vocation.

"I prefer seeing the result of my work to sitting in a class and reading theoretical stuff," said Jens Braske, a third-year electronics apprentice.

Employers foot the bill, including the time spent in school. At the end of the apprenticeship, students must pass a national trade exam for certification.

Even when Hamburg's unemployment rate has been high,' youth unemployment has stayed below the overall rate.

Clearly the system has shortcomings: an arduous layer of federal regulation, students forced to make career choices at an early age by American standards, and no guarantee that an apprenticeship will lead to a permanent job in the same trade. There's an often-repeated joke about how the Volkswagen factories are filled with well-trained bakers.

But West Germans believe in what one called "secondary virtues" of apprenticeships.

"You have a much better chance in any kind of labor with some kind of vocational training no matter what it is," said Jens Ostermeier, a teacher in one of Hamburg's 50 vocational schools. "You should not underestimate the effect of social training. You're used to coming in on time, making a shift. You're used to working for other people. You're used to solving problems. Think about it. The apprentices are on the lowest end of the scale and yet they come out with self-esteem."

Compare West Germany, where two-thirds of compulsory school graduates pursue apprenticeships, to Great Britain, where two-thirds of the students leave education entirely when compulsory school ends at age 16.

Great Britain, with its historic preoccupation with the educationally elite, is now scrambling to reform public education and training programs to close its own troubling skills gap. The country has moved toward developing a national school curriculum, revamping the centralized job training system and establishing a national trade certification system.

This summer, the U.S. Commission on the Skills of the American Workforce released a report that found that 90 percent of American employers feel a high school diploma signifies only "time spent in the seat" and nothing about education or skill achievement.

Former U.S. Labor Secretary Ray Marshall, the commission's co-chair, commented, "Because we have failed to forge a relationship between how well a student does in school and what kind of job he or she can get, we have turned our high school into little more than 'holding tanks' for non-college-bound students."

Along with pushing for higher achievement standards, the commission suggested: "Establish a comprehensive system of professional education certifications for the majority of our students and adult workers who do not pursue a baccalaureate degree."

Dade County Schools offers a variety of professional magnet programs that offer specialized courses. But they too are aimed at the college-bound.

Last year in Florida, a handful of districts began to implement a program called the Blueprint for Career Preparation. State Education Commissioner Betty Castor's goal in developing the plan was that someday every student graduating from Florida's public schools will be prepared to begin a career or continue his or her education at technical school, community college or university.

Under the Blueprint, work and career orientation would be a fundamental part of education beginning in kindergarten. In the upper grades, students could choose an integrated curriculum of academics and career training.

American schools have plenty of foundations to build upon.

Existing vocational programs can be expanded to offer a broader range of training opportunities that are more attractive to students. Work-study programs can be improved to do more than simply allow students time off from school in the afternoon to flip hamburgers or ring cash registers.

Businesses, leading critics of public education, are reaching out to education like never before. Now is the time to channel more of their energy and money toward training programs that would save businesses from having to spend the money on remedial training.

American youths shouldn't be left alone to solve the dilemma our school systems bring to Anja Baerting's mind.

"If you don't go to college there," wondered the West German apprentice, "what do you do?"

BEST COPY AVAILABLE

Failing to invest in workers

By Andrea Knox
Inquirer Staff Writer

At age 33, John Conrad had enough of doing pickup work like being a janitor and helping fix cars.

So last year he walked into a government training agency. He discussed his skills and all kinds of job opportunities with a counselor. Together, they decided the best bets were welding, restaurant cooking and industrial process control.

He settled on process control, in which he would regulate automated machinery, and enrolled in a one-year free training course. While he went to school, he got a $200-a-week stipend — a help in supporting his wife and two small children.

Although Conrad is an American, the United States is not investing in his training and it is not the U.S. economy that will benefit from his new skills when he returns to work.

Sweden, where he has lived for the last five years, is picking up the training tab and will reap the rewards of his increased value as a worker. With his upgraded skills, he will be able to produce higher-value goods and pay more taxes.

Nowhere in the United States would a non-college graduate like Conrad find such an organized system of career advice, training and financial assistance.

And that lack is just one symptom of a disregard for human resources that is provoking growing alarm among U.S. business owners, economists and policy analysts who see it as a growing threat to the nation's economic well-being.

The latest, and most thorough, indictment of the U.S. worker-training system will come tomorrow, when a blue-ribbon panel, including two former secretaries of labor, will issue a report containing sweeping recommendations for change in the way the United States prepares non-college graduates for the workforce.

The United States has already seen some of its products lose out on world markets, and over the last 20 years it has witnessed a 12 percent decline in the real incomes of its non-college-educated workers.

"The only way to reverse our pattern of stagnating productivity and declining real wages is to increase productivity," and to do that we must provide workers with better skills, says Ira Magaziner, who chaired the panel that spent the last year researching the issue.

If that does not happen, he warns, "the ramifications are serious."

Magaziner's group, the Commission on the Skills of the American Workforce, will propose broad changes in the way the United States prepares non-college graduates for work, both during high school and later as they require additional skills to continue advancing in their careers.

Without such changes, the United States will see a continuing erosion of its ability to compete in world markets and a steady decline in its standard of living, according to the report, "America's Choice: High Skills or Low Wages."

The commission was convened by the National Center on Education and the Economy, a nonprofit organization specializing in education and human resource issues.

Its report will be the third this year to decry the haphazard way in which non-college-bound youth — more than half of all U.S. high school graduates — are trained for work and funneled into careers.

Both the Educational Testing Service and the General Accounting Office concluded that those students are given short shrift in their high school educations and get almost no assistance with choosing and preparing for careers.

Secretary of Labor Elizabeth Dole has also embraced the campaign to improve preparation for work. She has established within the Department of Labor an Office of Work-Based Learning, whose primary goal is to help young people move into productive careers and upgrade their job skills.

Despite the upsurge of concern, however, there is widespread apprehension that the nation will not be able to muster the public will to make the necessary changes.

"I'm not sanguine about the American capacity to turn [the situation] around," says Theodore Hershberg, professor of public policy and history at the University of Pennsylvania. "Because only 2 percent of the workforce turns over every year, it's a slow crisis that isn't really being felt yet, and it's hard to see ahead."

Sue Berryman, director of the Institute on Education and the Economy at Columbia University, senses that the concern among chief executives and some policymakers is still far from growing into a national consensus.

"These reports we put out, how much do these really filter down" to society at large, she wonders.

The lack of career aid for non-college-bound youth in the United States stands in sharp contrast with the help available for those going on to higher education.

Wayne Sammler's story is all too typical of how American youth drift into careers, the studies say.

Sammler graduated in 1973 from Neshaminy High School in Bucks County, he said, with little advice on the best way to enter his chosen profession, health care. He also said he received virtually no counseling at Bucks County Community College, where he earned an associate degree in health care. When he decided not to transfer to a four-year college, he went to work in a window factory and a fast-food outlet, because he thought his two-year degree wouldn't qualify him for a health-care job.

Through his mother, a nurse, he eventually got work as a hospital orderly and then returned to school for a nursing degree. He is now head nurse in the short-procedure unit at Frankford Hospital's Torresdale Campus.

Sammler's bouncing around contrasts sharply with the way workers in other countries are channeled into careers.

In Germany, for example, almost all students who are not planning to go on to a university become apprentices in any

(See WORKFORCE on 8-C)

The Philadelphia Inquirer / ANDREA KNOX

Tanja Eckhof is a technical-drawing student at the state metal-working vocational school in Hamburg.

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Philadelphia Inquirer.

U.S. failing to invest in its workers

WORKFORCE, from 1-C

one of 380 occupations at the age of 15 or 16. For the next two or three years, about three-fourths of their time is spent in on-the-job training; the rest is spent in school.

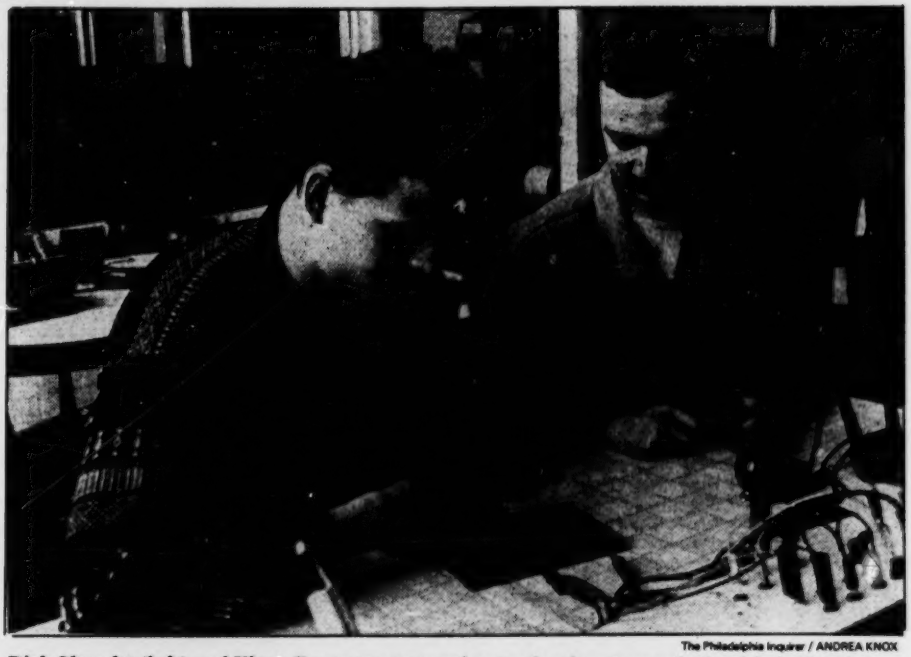
Tanja Eckhof, for example, is enrolled as a technical-drawing student at the state metal-working vocational school in Hamburg, Germany. There, last month, she fabricated metal parts to help learn how two-dimensional drawings translate into three-dimensional objects.

While most major industrial nations each have their own system for training future workers, they all have several features in common that are missing in the United States, according to the GAO report issued last month:

- They have relatively heavy investment in education and training for non-college students.
- They expect that all students, even those not planning to go to college, will meet certain academic standards before they leave school.
- They supply broad assistance, frequently with help from the business community, to enable students to learn about job requirements and find jobs.

What these policies produce, according to the studies, are workers who are much better prepared than their U.S. counterparts to do the jobs of the future: jobs requiring decision-making and technical skills, even from the lowest-level workers.

Companies increasingly require those skills as they strive to remain competitive by producing goods of higher quality, with more specialized features, and get them to market faster.



The Philadelphia Inquirer / ANDREA KNOX

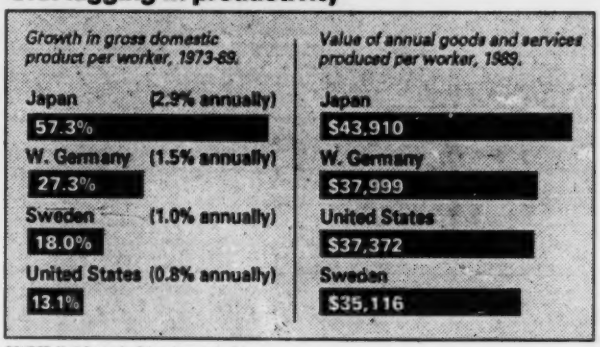
Dirk Obrecht (left) and Viggo Franz are apprentice mechanics at a car dealership in Hamburg.

Workers, in fact, are much more important than technology in keeping companies competitive, according to studies reported by the American Society for Training and Development. About three-quarters of the U.S. increase in productivity over the last 40 years came as a result of what workers learned either on the job or before entering the workforce, while only a quarter came from new technology, the society says.

And that, says Hershberg, is why the education of U.S. workers is so critical.

"Those kids in other countries will be competing with our kids, and their products will determine our kids' standard of living."

U.S. lagging in productivity



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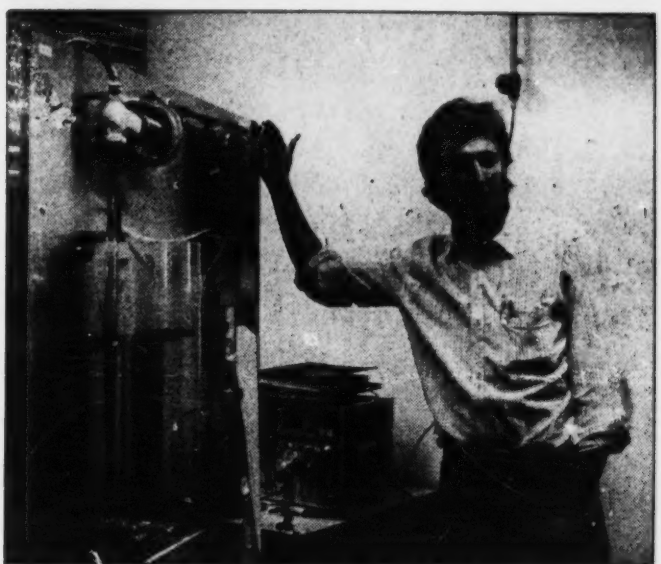

John Conrad got free training on industrial process control in Sweden.

The United States gives inadequate guidance and assistance to its non-college graduates, say business people and economists. And the lack of an organized worker-training system is seen as a growing threat to the country's economy.

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BUSINESS

A changing economy forces attention to training

Panel urges better education, higher standards for job skills

By Andrea Knox
Inquirer Staff Writer

One reason the United States is losing economic ground to nations such as Germany and Japan is that many of its workers do "dumb" jobs, which require few skills and produce little of economic value, a blue-ribbon panel said yesterday.

Continuing on this course will doom the United States to economic decline, the Commission on the Skills of the American Workforce warned.

In a report titled "America's Choice: High Skills or Low Wages!" the commission identified the critical problem as the training of what it calls front-line workers — the 70 percent of the workforce who will not graduate from college, and who will hold such jobs as bank teller, factory worker, auto mechanic or data-entry operator.

The group proposed five sweeping educational and social policy reforms to keep America competitive by giving workers better skills and encouraging employers to make better use of their human resources.

The changes would affect both the way workers are trained for initial jobs and the amount of additional training they would receive during their working lives. The recommendations:

• An educational performance standard should be established and all students should be expected to

(See COMMISSION on 5-E)

The Philadelphia Inquirer / REBECCA BARGER

Campbell workers embrace on last day on the job in March.

Retraining program gives hope to laid-off N.J. factory workers

By Neill A. Borowski
Inquirer Staff Writer

Many workers who lost their jobs at Campbell Soup Co.'s Camden factory may come out ahead, says a top job training official in New Jersey.

Hundreds are expected to be trained in technical or office skills under a $1.5 million federal grant, New Jersey's Department of Labor announced yesterday.

The funds, from the federal Job Training Partnership Act, also will be used to train workers whose jobs were eliminated by Western Union Corp. in Moorestown and by the Foster-Forbes Glass Division of American National Can Co. in Millville.

"The trend now is to respond to the service industries that are coming into New Jersey," said Robert A. Guadagnino, director of the Labor Department's division of employment and training.

On average, blue collar workers were earning $24,000 a year before being laid off by Campbell earlier this year, according to state Labor Department figures. "I think they'll do that well within 12 months ... with probably a better career ladder than they had at Campbell's," Guadagnino said.

About $1 million of the funding will be used to train and place former Campbell Soup workers in new careers. Training will be offered in air conditioning/refrigeration, the medical-secretarial field, operating

(See RETRAINING on 5-E)

Panel urges improved job skills

COMMISSION, from 1-E

meet it by age 16. The commission suggested that the standard be broken into a series of objectives to be met over a period of years, with the emphasis not on standardized testing but rather on the ability to apply knowledge to real-world situations.

• For those who cannot meet the performance standard during normal schooling, alternate learning centers should be established. Students under 18 would not be permitted to work unless they had met the standard or were enrolled in a program to achieve it.

• A comprehensive system of technical and professional educational certificates and associate degrees should be created for those who do not go on to four-year college.

• A national system of employment and training boards should be established to implement the proposals as well as provide job and training information to prospective workers.

• Employers should be required to spend an amount equivalent to at least 1 percent of payroll on worker training, with the amount to rise over a period of years. They could spend the money themselves or contribute to general training funds administered by the states.

The group's 36 members include William E. Brock, secretary of labor under President Ronald Reagan; Ray Marshall, secretary of labor under President Jimmy Carter; current Labor Secretary Elizabeth Dole, and business, labor and education leaders. In eight months of research in the United States, Japan, Germany and four other countries, the group concluded that the main economic competitors to the United States do a much better job of educating their front-line workers.

Because better-educated workers are more able to use advanced equipment and make decisions about work processes, their employers have an edge over most U.S. companies in producing high-quality goods quickly, the commission said.

The panel's study, released in New York, was financed with $500,000 in grants from the Carnegie Corp., New York state and Towers Perrin, a New York consulting firm.

It estimated the cost of alternate learning centers at $8 billion a year, which commission chairman Ira C. Magaziner called "a small price to pay if you could get the 20 or 25 percent who now drop out of school up to standards."

The cost of providing professional certification for noncollege workers was estimated at $35 billion a year. The commission recommended that this program be financed either by the federal government or by the students themselves, who would pay it back through a 1 percent income tax surcharge.

Magaziner said that many countries required employers to provide continuing training, but at even higher levels than those the commission proposes for the United States: the German requirement is 3.5 percent of payroll; the Swedish, 2.5 percent. He estimated that if all U.S. employers were required to spend 1 percent of payroll on training, the total training expenditure by U.S. employers would rise to between $50 billion and $55 billion annually from the current $30 billion.

The additional expenditure would reach many workers who now receive no training at all, since only about 15,000 of the nation's approximately 11 million employers account for some 90 percent of all employer training outlays.

Retraining offers hope after layoffs

RETRAINING, from 1-E

and repairing computers and the casino industry, said Guadagnino, who added that the fields were chosen after a survey of job opportunities.

Guadagnino estimated that between 70 percent and 80 percent of 940 former Campbell workers will take advantage of the training programs, which last from three months to a year.

Often the private school or community college doing the training is required to find jobs for the newly trained displaced workers. If they don't, then the training fee is held back, he said.

For some former Campbell employees, however, getting to new jobs may be difficult.

"Transportation could be a problem, but it really has to be addressed on an individual basis," Guadagnino said. The program does not subsidize transportation.

Some will be trained for the Atlantic City casino industry, which despite sluggish revenue growth is still hiring, he said. And, with increased rail service to Atlantic City, there is transportation.

About 100 of the more than 500 workers fired at Western Union in Moorestown in mid-1989 already are in training programs. They are learning to be paralegals and legal secretaries and to work in hotel management, computer operations and the casino industry.

About 120 workers lost their jobs at Foster-Forbes in Millville between January and March, he said. Their retraining choices include the casino, health-care and legal industries. They also are being trained in using computers.

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MONDAY
October 15, 1990

SECTION C

PHILADELPHIA BUSINESS

A weekly report on business and the economy in the metropolitan area

Workers: A new investment

By Andrea Knox
Inquirer Staff Writer

Is labor merely a cost of doing business — something an employer should shave and squeeze as far as possible?

Or are workers a resource — an asset to be invested in and used to best advantage?

The assembly-line model of American industry presumed the former. It saw the worker as a cog in the production machine, a brainless pair of hands whose role was to take orders and leave quietly when laid off.

But in an age when success is ever more dependent on manipulation of advanced technologies, provision of quick solutions to complex problems, and beating of competitors from around the globe, the assembly-line notion has become outmoded.

Brainpower is increasingly more important than horsepower.

More employers think that, to succeed, they need workers who can learn quickly, make intelligent decisions and take responsibility — and management styles that allow workers to use those faculties.

At the same time, changing demographic and economic conditions mean that employers must be prepared to recruit, accommodate and train women, minorities and working parents — workers whose lives and outside obligations are different from those of the white men with homemaker wives who made up the bulk of America's postwar workforce.

That twin challenge may be the toughest faced by American employers in four decades. Here is how some have begun to meet it:

At the Naval Air Development Center in Warminster, recruitment is a prime issue. A priority is reaching out to women and minorities for the next generation of engineers.

At Doylestown Hospital, chief executive officer Robert A. Reif believes that, to give excellent patient care, the hospital must be a place where all employees are encouraged to make things better. He wants an atmosphere in which workers' ideas for improvement are solicited, acted on and rewarded.

At Ford Electronics' new North Penn plant, the goal is to stay ahead of the German and Japanese firms with which it competes for contracts to supply Ford Motor Co. Ford Electronics will spend several million dollars over the next few years to improve the reading skills and technical competence of its workers.

"We know we must unleash the knowledge and power of our people to stay in this business and be a world-class competitor," said plant manager Bob Haase.

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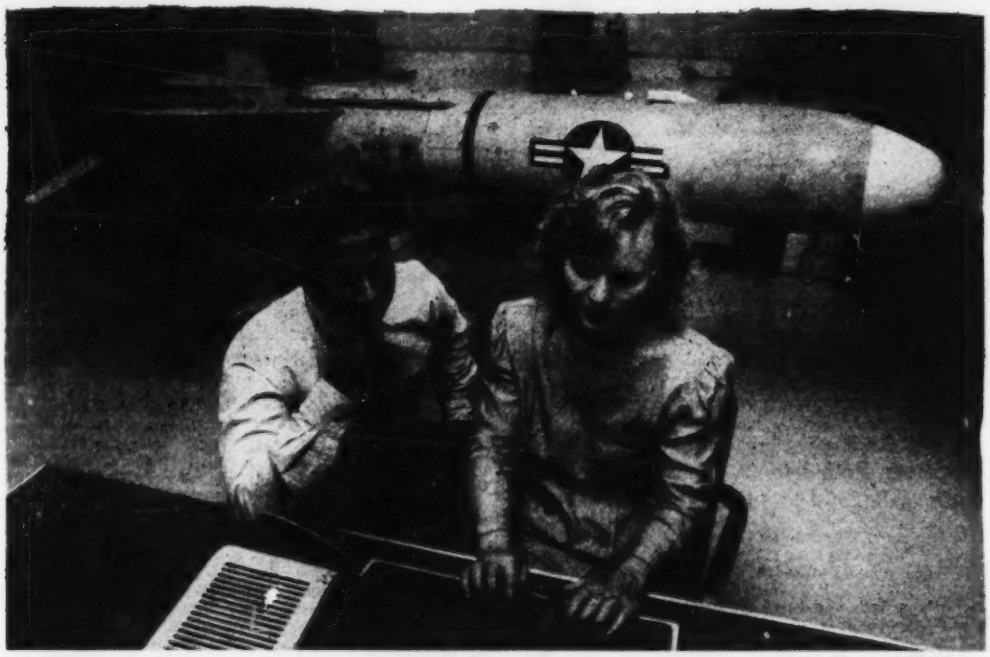


Special to The Inquirer / TODD BUCHANAN

At the Naval Air Development Center in Warminster, Grant Bunting and Ann Fowler do a computer missile analysis.

Reaching out for potential recruits

On the front lines of the hiring wars, Ron Young is on the offensive.

As director of civilian personnel at the Naval Air Development Center in Warminster, Young needs to hire about 135 scientists and engineers each year to replenish the ranks of electronics-systems designers who retire or leave the operation, one of the Navy's main research and development centers.

So far, Young has had no real difficulty, though the number of engineering graduates has fallen precipitously since 1986. By putting a little extra effort into college recruiting and spending a little more money on advertising, he's been able to get the people he needs.

But because the number of engineering graduates will continue to drop at least into the mid-1990s, Young sees trouble on the horizon — and hopes to head it off.

He is attacking on two fronts.

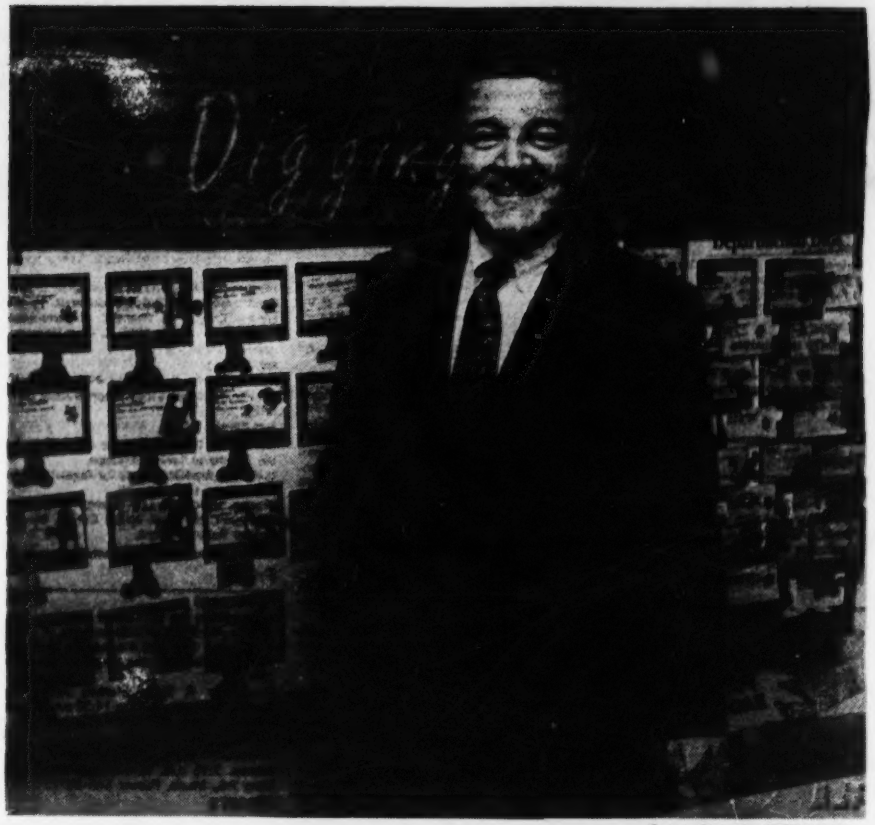
First, he is bent on making the center a leader in attracting women and minorities, who are a growing share of both the workforce and the engineering profession.

Second, he is reaching into high schools to encourage students to consider careers in engineering.

As a federal agency, the center is obliged to follow government guidelines on equal-opportunity hiring and thus has increased its minority hiring over the years. Last year, "43 percent of our offers were to minorities and females, which would have been unheard of five or 10 years ago," Young says.

But because businesses also will have to recruit more women and minorities, "it's

(See RECRUITING on 6-C)



Special to The Inquirer / TODD BUCHANAN

CEO Reif in the cafeteria at Doylestown Hospital, where employees' suggestions are posted.

An emphasis on recruiting pays off for naval center

RECRUITING, from 1-C

going to become more difficult for us," Young says. So he is expanding the agency's minority-hiring efforts beyond government mandates.

Under its new Adopt-a-College program, the center is seeking to strengthen ties to historically black schools and to schools that enroll large numbers of black and Hispanic engineering students.

The center always recruited job candidates at most of the 12 "adopted" schools, which include Tuskegee Institute in Alabama, Tennessee State University and the University of Puerto Rico.

What's new is an attempt to establish relationships under which staff members from the center visit the campuses to talk about their work and the agency channels research contracts to professors in the same way that research contracts have always gone to other universities.

"The idea is to let instructors and students know what is going on here and what career opportunities are available," Young says.

When possible, the link from the center to an adopted campus is a graduate of the school — someone such as Grant Bunting, a 1988 graduate of Morgan State University in Baltimore who encouraged the center to add Morgan State to the Adopt-a-College program.

As employee shortages develop, one personnel director works on new ways to find and develop workers.

Bunting returns to campus to attend career fairs and encourage co-op students to go to the center for the work portions of their schooling.

"Anyone who's a junior or a senior, I try to make sure they know we are available and have a commitment," says Bunting, who has worked on the design of a missile-guidance system at the center.

Because the center always has recruited at most of the schools, and because Adopt-a-College is only two years old, Young says it's impossible to tell whether the program will produce significant numbers of new employees. But he expects the program to give the center a competitive edge that will be needed more than ever in years to come.

At the same time, "we are reaching out to kids at levels" — in high school — "that before we didn't really have to," Young says. "We used to go primarily to colleges, but we really feel we need to spend more time going back to get more kids interested in engineering and science, and have them become more familiar with [the Naval Air Development Center] so we can nurture that relationship."

The agency sends staff members to high schools to talk about its work. Two years ago it resurrected a Pentagon program in which interested high school juniors and seniors can spend the summer working at the center. Seven students from three high schools worked at the center this summer.

Philadelphia Inquirer

'Associates' who dig for new solutions

It is a classic win-win situation. Since spring, obstetrics nurses at Doylestown Hospital have worked 72 hours over every two-week period but have been paid for 80 hours — and saved the hospital money in the bargain.

The key is flexible scheduling. The nurses agreed to work when the ward was busy and take time off when they weren't needed. The result was a drop in costs for both overtime and unscheduled time off.

This was no flash from management. The nurses suggested it.

It is, says chief executive officer Richard A. Reif, an example of how employees often see problems, solutions and opportunities that escape management — though Reif himself would never call them *employees*.

Everyone who gets a paycheck from the hospital is known as an *associate*. In Reif's view, *employee* suggests subordination, while *associate* connotes a collegial approach to running the institution.

"We're all in this together," he says. "I'm just one person. We have 1,400" workers with good ideas.

Under a system called do-it groups, or DIGs, those who suggest improvements get to implement them — and each group that completes a project gets a $20 bill for refreshments at its final meeting.

Since August, 27 DIGs have completed their work, and 90 others have started.

The results range from the significant to the seemingly mundane:

- Rehabilitation patients spend less time waiting for van service, thanks to the efforts of a committee headed by the administrative director of rehabilitation.
- Coffee is available starting at 7:30 a.m. instead of 8 a.m., a boon for those who start work at 8. The change was conceived and executed by a secretary.
- There soon will be areas where

(See HOSPITAL on 7-C)

At a Ford division, the assembly line takes a back seat

Although Ford Electronics is a division of Ford Motor Co., it doesn't get any breaks as a supplier of electronic components for Ford cars.

"We bid for Ford business just as if we were an outside competitor, and the people we compete against are the formidable competitors, the Japanese and German firms like Siemens and Nippon Denso," said plant manager Bob Haase.

So when the company decided to replace its Lansdale plant with a new factory in nearby Worcester Township, managers realized that workers and the organization of work should be just as up-to-date and competitive as the new plant's equipment.

That meant doing away with an assembly-line system in which questions were bucked up to management and answers came back down to the shop floor — a process that ate up time and often took decision-making power from the people most familiar with a problem.

Under the new system, workers are organized into groups, and each group has "a lot more autonomy on how the job is done day to day," said Laurie Buhr, who is in charge of setting up work groups in the new plant.

The rationale, says Haase, is that "there's a lot of knowledge in the production areas — a lot of experience with the equipment, processes and systems."

But Ford went further: It wanted to give the workers more knowledge to help them work smarter.

"In the traditional environment, people would be assigned to a job by a supervisor and would do the same thing, maybe putting five components" — computer chips — "on a circuit board, day in and day out," Buhr said.

"Now we want people to understand more about why they do what they do, and what are some of the consequences if there is something wrong, so they can make corrections, changes and adjustments."

In addition, the company wants workers to be able to do several jobs, so they can go where needed. Workers benefit, too, because Ford's union contract obliges it to pay according to what a worker knows.

The challenge is big enough that Ford expects to spend several million dollars over the next three to four years on training for about 1,800 production employees.

Training is given in three categories: basic skills, technical areas and teamwork.

Every production worker was tested to determine whether he or she had sufficient reading and math skills to master the technical training. About 30 percent needed some brush-up, Buhr says, mainly in reading and English as a second language.

Then, before a work group is formed, members get at least three days' training in teamwork. An operating group gets more training: The group leader attends a one-day leadership course, and all group members may attend classes in managing conflict, how to run meetings, effective listening and group problem-solving. Ideally, everyone eventually will get leadership training, since leadership is an elected position that rotates among group members.

Technical training teaches workers how to do various jobs.

With 900 employees organized into work groups, the reaction is mixed, Buhr concedes.

She says that although the plant's United Auto Workers union supports the reorganization, some workers still are uncomfortable with it.

"It used to be that if a worker didn't get along with the person next to him, she could ask a supervisor to move her," Buhr said. "Now, individuals will have to solve these kinds of problems themselves. For people who haven't had to deal with personal conflicts, this can be stressful."

Union officials were unavailable for comment.

Further training will quell some frustrations, Buhr believes.

As for whether the training effort will pay for itself, Buhr says that that may never be known for sure but that Ford believes it will.

"Just from the basic-skills standpoint, having people who can read will cut down on mistakes and improve quality," she said.

"But we hope the gain will be more than just catching errors. We hope we will get a workforce that can contribute ideas and thoughts about how to operate the business more effectively."

Philadelphia Inquirer

A hospital with creative 'associates'

HOSPITAL, from 1-C

people can sit near elevators, a suggestion from the assistant chaplain.

• The pharmacy staff is reorganizing storage of intravenous supplies.

• A groundskeeper is setting up a horticulture-therapy program for psychiatric patients.

• As a patient at the hospital, a staff member was bothered by the noise from medication carts in the hallways. She heads a group that is trying to make the carts quieter.

• The medical-records staff is developing a system to better track patients' charts as they move through the hospital, from bedside to nursing station to pharmacy to radiology and back again.

Reif's philosophy is that the hospital is a service organization and that the quality of service given by employees will depend on the extent to which they feel valued and trusted.

One of his first acts when he became CEO 18 months ago was a ceremonial smashing of the time clock, which was dropped to the ground by a construction crane before a crowd of employees.

"We don't trust our people?" he asks rhetorically.

Nurturing of the staff has taken many other forms.

This summer, the hospital ran a day camp for employees' children in first through fourth grades.

It recently instituted a flexible-benefits program, so each employee can choose the benefits he or she finds most useful.

Now, Reif has begun a salary restructuring to assure that jobs with equal work and responsibility command equal pay, and to be sure that the hospital's salaries are competitive.

But for many employees, the knowledge that their ideas and contributions are valued is one of the biggest boosts.

Medical technologist Linda Hoover, whose team at Doylestown Hospital is working on ways to make medicine carts quieter.

Three years ago, personnel recruiter Kathy Owens Fox proposed a summer day camp to introduce employees' children to the hospital. She saw it as an early step in recruiting, a way to raise kids' interest in health careers.

She was told, "It's not in your job description."

This year, when she raised the idea with Reif, "He just said, 'Do it!' " she recalls with wonderment.

The weeklong camp attracted 15 children ages 9 through 11. The project won an award from the Pennsylvania Hospital Association as the best low-budget public relations effort of the year.

The obstetrics nurses' work schedule also won an award from the hospital association.

"The American workforce has the willingness and the desire," says Reif. "They just have managers who don't let them."

Commerce magazine

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Chicago Association of Commerce and Industry.

What Western Europe's Job Training Systems Can Teach America

In the struggle to ensure that graduates are ready for the world of work, policy makers are looking abroad for answers.

By CINDY RICHARDS

The problem, which has grown to dramatic proportions in the post-recessionary eighties, will become even more acute in the nineties as the labor force shrinks, leaving employers with fewer job candidates from which to choose. Meanwhile, a growing number of the young people who are looking for jobs lack the skills needed by a 21st century economy. Employers spend a lot of time talking about the "skills gap" but remain very much at a loss about a way to bridge it.

Traveling on a German Marshall Fund grant, five journalists recently visited Europe to study the job training programs in Germany, Sweden and England, seeking a program that might be exported to the United States.

Although each country had a program or a public policy that might serve nicely in the U.S., none of the programs seemed suitable in total. The German system seemed too rigid, the Swedish system too lax. However, in England, the country where social attitudes most closely reflect those of the United States, there is one new idea that just might export very nicely.

Faced with an abysmally low 30 percent of students who stay in school until age 18, the English are adopting a voucher system to ensure those who leave school at age 16 get some kind of job training.

Upon leaving school, a 16-year-old would receive a voucher worth approximately $2,000 to $3,000 that can be cashed in only to pay for employer-provided training. The government will reimburse the employer once the training is finished.

Officials hope the voucher system will provide a better trained work-force during the labor-short nineties. Ironically, the experiment may fail because of the labor shortage.

"Fifty percent of the 16-year-olds who leave school go to jobs without training," said John Cridland of the Confederation of British Industry, the group that is pushing the voucher system. Retailers and small business hire the youths for dead-end jobs that pay $200 or so a week. It's a lot of money to a 16-year-old, but it leaves them with a bleak future if they remain unskilled laborers.

Cridland's group is hoping the training voucher, and its promise of a better-paying job in the future, will be the carrot that will keep youths in some type of vocational education program at least until they're 18. Because the voucher can be cashed only in payment for a training program, "it gives the young person more bargaining power," he said.

"We want to remove the choice of a job or training and replace it with a job *and* training," Cridland said.

The program, which kicks off with a pilot project next Easter when vouchers will be issued to 10 percent of the nation's 16-year-olds, will be administered through a nationwide network of

Training and Enterprise Councils. The TECs are the latest government initiative to get employers to participate and invest in worker training—formerly the sole purview of government.

For their part, British businesses must agree to hire the youths at market wages and then give them time off to attend classes. If employers fail to accept responsibility for training their own workers, the voucher experiment will fail.

Such a program might have a greater chance of success in the United States, where businesses have long accepted training as their responsibility. With the growing labor shortage, companies are teaching illiterate workers how to read and write as well as teaching long-time employees new skills. A voucher system—under which the government would share some of the training costs in return for businesses taking the risk to hire less desireable workers—is among the considerations of a group looking for ways to resurrect the nation's vocational training heritage.

A voucher system — under which the government would share some of the training costs in return for businesses taking the risk to hire less desireable workers — is among the considerations of a group looking for ways to resurrect the nation's vocational training heritage.

The Rochester, N.Y.-based National Center on Education and the Economy spent eight months looking at ways to reorganize America's job training system. The group concluded that American workers must be retrained, or accept a lower standard of living. The report, which hadn't been issued at press time, outlines a plan of action to put the U.S. "on an even footing with other nations that are far ahead and moving fast," said Ray Marshall, secretary of labor under President Carter and a member of the Commission on the Skills of the American Workforce.

Members of the commission, including business, labor, education, community and government leaders, also visited European training programs in their search for answers.

Included on their itinerary was a visit to the international star of the job training world: the so-called "dual system" of West Germany.

The key to success in West Germany—where a scant 25 percent go on to university—is a certificate.

Indeed, many of the students who later plan to go on to university will spend a few years in a vocational education program to "have something to fall back on," said Anja Baertling, a 21-year-old carpenter's apprentice in Hamburg who plans to have her own furniture-making business one day.

The certificate is proof its owner has completed an apprenticeship program through the "dual system" school. The name refers to a school program that includes on-the-job training as well as classroom instruction—the school track the majority of 16-year-old Germans choose. They attend school full-time for nine years and then sign on for a 3.5 year training program.

The backbone of the program is industry commitment. The students are expected to find an employer who will provide the vocational training. They sign a contract that entitles the students to a small monthly stipend, ensures a minimal amount of time will be spent in the classroom, and provides the employer with a source of inexpensive labor.

The system turns out an enviable number of trained workers. But, critics point out they often are trained for jobs no longer needed in the economy.

"The standard joke is: If you measure the size of a bakery by the number of

continued on page 60

TABLE 3
ENROLLMENT RATES IN FORMAL EDUCATION, BY AGE

(Full-Time and Part-Time*)

	16 Years			17 Years			18 Years			19 Years		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Australia (81)	78 8	75 7	77 3	65 7	52 6	59 2	52 6	32 4	42 0	45 7	29 0	37 4
Austria (81)	89 2	86 1	87 1	89 8	77 4	83 7	86 7	70 1	76 5	62 8	41 2	45 6
Belgium (82)[1]	87	86	86 5	74	78	75	56	58	57	41	44	43
Canada (81)			88 6			71 6			42 1			30 0
Denmark (80)			86			68			61			50
Finland (78)	86 8	88 2	87 5	73 1	77 8	75 4	53 4	64 5	58 8	27 4	41 4	34 5
France (81)	82 8	85 0	83 9	65 5	72 3	68 9			45 2			30 0
Germany, West (81)	92 4	91 7	92 1	91 7	86 8	89 3	75 9	67 1	71 9	47 9	43 9	45 9
Italy (81)[2]	79 1	58 6	69 1	83 2	56 7	70 3	64 8	37 3	51 3	39 1	19 3	29 4
Japan (80)[3]	93	95	94	93	95	94						
Netherlands (82)	98 3	97 3	97 8	87 3	82 1	84 7	68 7	57 0	62 8	51 2	36 1	43 7
New Zealand (82)			74 4			46 5			32 6			30 9
Portugal (77)			39 2			35 0			34 5			27 8
Spain (80)	53 1	53 7	53 4	49 2	50 9	50 1	36 5	37 7	37 1	27 3	27 7	27 5
Sweden (80)[4]	87 0	87 8	87 4	77 7	79 0	78 4	43 4	46 3	44 7	21 6	25 7	23 5
Switzerland (83)	91 1	80 4	85 9	89 0	73 8	81 6	82 6	63 1	73 1	62 9	42 3	52 8
United Kingdom (81)	64 3	72 0	68 0	53 5	52 0	52 8	43 5	30 2	37 0	32 4[5]	24 3[5]	28 5[5]
United States (82)	**95.0**	**93.6**	**94.3**	**87.9**	**86.2**	**87.1**	**56.6**	**52.9**	**54.7**	**41.1**	**42.6**	**40.9**

*Including apprenticeship, but not Italy. Source: *OECD*

JOB TRAINING

continued from page 49

bakers employed there, then Volkswagen is the biggest bakery in the world," said Jens Ostermaier, a mechanics teacher at a vocational school in Hamburg, West Germany.

Still, officials say, being certified as a baker is better than not getting any certificate at all.

"Training in the work ethic is the hidden value of the certificates," said Jobst Fiedler, district mayor for the Harburg section of Hamburg.

The result—a cadre of job-ready young adults—is the envy of many.

"We would all prefer the German model," admitted Cridland, the English businessman.

But, he noted, the rigid system that tracks students into a profession by the tender age of 16 is not a program that would work in a more flexible society.

Conversely, too much flexibility can be a bad thing, Swedish employers say.

That country, with its socialized approach to training, actually pays a stipend to workers who choose to return to the classroom in search of new skills.

Stamford, Conn. native John Conrad, who has lived in Stockholm for the last five years, is in a two-year technical training program. With the government stipend, government-subsidized day care and a working wife, he is able to stay in the training full-time.

"In the States, you can't re-educate yourself if you have family responsibilities [unless] you're wealthy," Conrad said. "In the U.S., training is kind of limited to 18 and 19-year-olds."

While the system is terrific for workers, it doesn't serve business well.

"We say, 'Don't do so much vocational training,'" said Lars Cambert, a human resources executive for Volvo in Gothenburg.

The training provided by government programs often is inappropriate for industry needs. Last year, only 627 of the 8,081 students graduated from vocational education courses in Gothenburg were qualified to work for Volvo, said Claes Rosengram, head of the company's department of education and work environment. "We needed 2,188, so we had to hire from other [specialties] and train them."

If any part of the Swedish system were to be exported to the United States, it might be the public policy commitment to retrain workers any number of times over the course of their working lives.

Said Conrad: "Sweden recognizes that the world is changing." □

William Raspberry

Education and the World of Work

BERLIN—Young Germans, aside from the university-bound minority, leave high school ready for work. Their American counterparts graduate from high school ready for college—or nothing.

The difference, I am convinced after a few days' looking at German schools, could shed more useful light on what has gone wrong in American schools—and American society—than all our frenzied attention to school reform, reorganization and deteriorating academic standards.

Americans, though troubled as never before about the quality of our schooling, remain ambivalent as to its purpose. We fret that our schools routinely fail to produce workers of the competence our industry requires in order to remain competitive in the international market, but it strikes us as somehow wrong to gear our schools to industry's requirements. Education, we tell ourselves, should be its own reward.

The Germans suffer no such ambivalence. For them, work is what responsible citizens do, for themselves and for the state, and education is the means by which they learn to do it more efficiently.

One result of that assumption is that they do a much better job than we do of preparing their young people for the school-to-work transition. German youngsters are at once more serious about work and better at it than their American counterparts.

Are there lessons for America in the German approach?

The premise of this trip is that there are. I am traveling with a group of Indianans who hope to adapt elements of the German system to the needs of their state. The group, which includes educators, legislators, union officials and employers is looking both to improve the quality of Indiana's work force and to enhance the work skills and attitudes of its young people, particularly its disadvantaged youth.

Their focus is Germany's "dual system" of combining academics and apprenticeships, particularly for the 75 percent of German youngsters who will not pursue university education, for real jobs in the German economy.

Young Germans typically spend the first 10 years of their schooling on academics (though even at this stage there is heavy emphasis on the world of work) and the last two years pursuing on-the-job apprenticeships for three or four days a week with a day or two of formal instruction in public school classrooms.

Perhaps most intriguing to an American visitor is the loose tie between the apprenticing employer and the apprentice. In general, the youngster himself will find a sponsoring employer, who then may train him for as long as three years. At the end of this costly training, for which the employer pays, the apprentice is free to seek full-time employment wherever he chooses.

The training, in some 380 apprenticable skills, is standardized across Germany, so the skills are fully transferable from one company to another. Employers consider the training outlays an unremarkable investment in the competency of Germany's work force and, therefore, an investment in their own long-term survival.

German supervisors are themselves master craftsmen, unlike in America, where first-line managers are likely to be recent college graduates with little on-the-line experience. The result is an unusually competent work force, which is proud of its technical skills.

While the government closely regulates the quality and content of the apprenticeships, there is no legal requirement that employers maintain apprenticeship programs at all. Most do, however, including small companies of which Germany has an unusually large number. It is rare to find a large company—even with parent companies based outside of German—without an excellent apprenticeship program that routinely trains far more workers than it intends to hire.

The dozen Hoosiers are the second group to make this tour under the sponsorship of the New York-based CDS International and the German Marshall Fund. The first group, largely top-level policymakers, decided that any successful effort at implementing any part of the German approach would require the enthusiastic endorsement of workers, employers, legislators and educators. Thus, this second tour, which so far has included Cologne, Bonn and Berlin, and which will end in Copenhagen.

The Indiana visitors are uniformly impressed by the work-seriousness of German high schoolers, the quality of their academic instruction and the dignity accorded non-college trades. Nor, given the unquestioned quality of German products, do they doubt that America would do well to emulate major aspects of the system.

Their question—and *mine*—is whether a system that grows out of the medieval craft tradition can be transplanted in substantial part to America, with its vastly different traditions and assumptions.

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William Raspberry

'Dual System' Education—Is It for America?

BERLIN—Can the United States join Germany—and much of the rest of central Europe—in turning out high school graduates trained and ready for productive work? Should it?

The answers are not as obvious as they first seem to an American visitor. It is true that Germany has built an international reputation for turning out meticulously crafted (if not always innovative) products. And it seems to be true that the reasons include not merely pride of workmanship growing out of a long tradition of expert craftsmanship but also the specific skills of its young entrants into the labor force.

Thanks to its impressive "dual system" of combining high school academics with apprenticeships in specific skills, Germany is turning out so many qualified young workers that officials are starting to worry whether the country can maintain an adequate supply of unskilled workers for such necessary functions as street sweeping and garbage collection. American high school graduates typically lack specific skills, though the theory is that their high school studies should have equipped them for entry-level positions that permit them to learn on the job.

But America, unlike industry-oriented Germany, tends to see its future less in manufacturing than in a high-tech service-based economy. Thus we are far more likely than the Germans to push the idea of college training for all but the most academically inept young people.

The Indiana group I am traveling with has just toured a huge Siemens operation where high school apprentices are learning the job skills this multinational corporation needs to maintain its leadership in electronics manufacturing. We have also visited a vocational training school whose students spend three or four days a week as private company apprentices. In both cases we saw bright young people whose American counterparts would be fully expected to complete their high school work and head straight for college.

One group of youngsters—bright, sophisticated and serious-minded 20- and 21-year-olds—are training as hotel managers, alternating their time between high school academics and hotel work. In America, they would almost certainly be enjoying the carefree life of a college student.

The Hoosiers, here to look at German and Danish education to see what ideas they might glean for Indiana's underprepared work force, are ambivalent about what they have seen.

On the one hand, they are in awe of the maturity of young Germans, the purposefulness of the German educational system and the school-industry cooperation that serves the twin purposes of educating the country's young people and ensuring its industry a reliable supply of competent workers. On the other, they fear that the industry-specific training that begins in 9th or 10th grade may, by forcing career decisions prematurely, steer too many youngsters away from college and foreclose their options.

They not only doubt the willingness of American parents to see their children's education given over to the service of industry, and wonder if U.S. employers could be trusted to give them the generalized skills they need for real choice in the job market. They also suspect that training along the German model may be antithetical to the broad-based education that Americans value.

Nor are they settled on what should be the goal of the recommendations they are expected to make when they get back home: to satisfy their children's need for a solid technical education or industry's need for trained and disciplined workers.

At one of their nightly debriefing sessions, for instance, they came close to endorsing a proposal by Bill Riggs, an Indianapolis lawyer and member of Community Leaders Allied for Superior Schools, that the group recommend that employers be "permitted to provide hands-on training, at their expense, for high school students who have completed the sophomore year and want an opportunity to enter the work force in a meaningful trade while continuing to receive a general education with the option to go on to higher education."

But the near-agreement fell apart over such questions as whether such a scheme would be perverted into a source of low-paid workers for manipulative employers or tempt college-bound youngsters into going straight to work or lead to a two-track system of *training* the poor while *educating* the middle class.

The point of recounting this debate is not that this committed group will be unable to reach consensus but to suggest how tough it will be to sell that consensus to their state's industry, labor, educators and others, each with his own special interests and imperatives.

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William Raspberry

Why Do We Treat Young Workers Like Kids?

COPENHAGEN—Before this trip, it hadn't really struck me how haphazardly American youngsters—particularly the non-college-trained—launch their work careers.

Typically they leave high school to look for work wherever they can find it: sometimes with help from family friends and sometimes going full-time in jobs they worked part-time during their senior year. Only after a succession of random jobs do they seem to stumble upon something with real career potential: that is, a permanent job with clear prospects for advancement that pays enough to support a family.

The contrast with youngsters in Germany and Denmark is striking. Here, there is a virtual conspiracy to get young people thinking seriously about careers. Even in the early grades, teachers spend a great deal of time discussing the world of work. At some point in their education, they are expected to "shadow" a particular sort of job. For instance, each eighth-grader in Denmark spends a full week in a factory, manufacturing plant, office or other business, learning the purpose and technique of the work being performed there.

And most German and Danish students, including an increasing proportion of those whose academic success would mark them for college attendance in America, spend the last two years of high school combining their classroom studies with out-of-school apprenticeships. They result is that while they may not be less like children, they seem more like adults than their often aimless American counterparts.

I suspect that much of the difference relates both to the craft tradition of Europe and to the different attitude European employers have toward their young workers. American employers, who tend to doubt the seriousness of their young workers, are reluctant to give them either much responsibility or much career-oriented training. The employer-provided training that can transform a job into a career is, in America, usually reserved for more mature workers, say in their mid-twenties or older. The result is a sort of extended adolescence that in turn becomes the rationale for not treating the young as serious, career-minded workers.

Many Americans, including the dozen Indianans who have permitted me to tag along on their 10-day tour, think we are making a serious mistake. Not only does industry suffer a shortage of competently trained, career-ready workers, but the young people themselves waste precious, directionless years between leaving school and starting their careers.

The delayed transition to adulthood signals to the youngsters that, no matter what we say, there is little real relationship between what they learn in school and their ability to make their way in the world. Even young people who graduate from college may find themselves victims of an attitude that discounts their knowledge and overemphasizes their inexperience, though at least they are presumed to have acquired some career-enhancing skills. But for the half of American youngsters who do not go to college, and particularly for disadvantaged minorities and others labeled "at risk," it is far worse.

The group I am with, the second group of Hoosiers to make this tour, believes that this situation will grow worse as demographic changes force increasing reliance on a younger, less white work force and that the solution may lie less in inducing young people to work harder in school as it now exists than in major alterations in the way we do school.

Interestingly enough, they acknowledge, Americans already have adopted bit and pieces of the European apprentice system. Some children in most American cities have access to "cooperative learning" programs that allow them to acquire some career-oriented skills while still in high school. Some are shunted into "vocational" classes, though these are rarely given much respect by employers. And growing numbers of youngsters and young adults are turning to two-year colleges as a means of facilitating their transition to careers.

But rarely are these bits and pieces woven together into anything approaching a system.

Nurse training may be the most obvious exception. Indiana, like a number of other states, employs a scheme that uses the state technical school system for training licensed practical nurses, who then may go to work while studying part-time for Registered Nurse certification, associate degrees or baccalaureates, with prospective employers often picking up at least a part of the tab—a system close to that operated by Europeans for most careers.

The reason, of course, is that trained nurses are in critically short supply, and those who hire nurses know it. The Indiana group, alarmed at the under-preparation of the state's young people and the competitive disadvantage of its industry, expects to recommend similar career preparation for all of its noncollege youth, beginning in high school.

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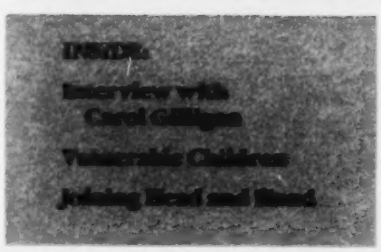
Is There Life after High School? Developing Apprenticeship in America

By Stephen F. Hamilton

Each year millions of American teenagers leave high school and enter a "floundering period" during which they move from one low-wage, low-skilled job to another. Could schools do a better job of smoothing the transition from school to work? Stephen F. Hamilton has studied the apprenticeship system in West Germany. The Harvard Education Letter *invited Hamilton to draw lessons from the German experience that might be applicable in America.*

By age 15 or 16, many American students consider school a waste of time. The complaints are familiar to parents and teachers: "It's boring." "We already had this in middle school." "Why do I need to learn this?"



Such comments and questions are particularly likely to come from students who are not planning to enter college—the "forgotten half," in the apt terminology of the William T. Grant Foundation Commission on Work, Family and Citizenship. When teachers or parents tell them that getting a job or performing well in the workplace depends on doing well in school, these students are skeptical.

In the realities of today's youth labor market, it is difficult for teenagers to see any connection between school and work. Many are already working at jobs that demand few if any academic skills. When they graduate from high school they are likely to continue at the same kinds of jobs: as sales clerks, custodians, waitresses, shelf stockers.

Dropouts are more likely to be unemployed, but those who do find jobs often work alongside recent graduates. Even among the graduates of vocational programs, only 27 percent ever hold a job in the trade for which they trained.

For the most part, teenage workers are restricted to low-skill, low-wage jobs with little security and few possibilities for advancement. Many American employers seem to view teenagers as inherently irresponsible; they are reluctant to take the risk of hiring and training them.

Isolated from jobs that require academic learning, teenagers develop short-sighted priorities. They do not see that they might be candidates for better jobs in a few years—jobs that require reading, writing, math, problem-solving, and an ability to keep learning. By that time, those who failed to take school seriously may find themselves locked into low-level secondary-labor-market jobs for life, especially as high-paying factory jobs disappear.

Germany's Dual System

Can we find ways to demonstrate to young people that learning matters? Can we find ways to lay the groundwork for a lifetime of earning and learning? One answer may lie in developing a system of apprenticeship that will motivate youth to learn in school and will ease their transition into adult careers.

Many Americans view apprenticeship as a pre-industrial approach to training, more appropriate to a craft-based economy. Today, apprenticeships in the United States enroll only a quarter of a million people each year (about 0.3 percent of the workforce), and more than half of

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these are in the construction trades. White males predominate, and the average age of an American apprentice is over 25.

In contrast, apprenticeship is the largest form of upper-secondary education in West Germany. More than 60 percent of West German 16- to 18-year-olds enroll in a "dual system" that combines apprenticeship with part-time vocational schooling. Comparable systems exist in East Germany, Austria, and the German-speaking cantons of Switzerland.

At the same age when their American peers leave high school to flounder in the youth labor market, German young people begin careers as cabinetmakers, bookkeepers, police officers, machinists, or TV repairers. Apprentices also learn such contemporary occupations as personnel officer, account executive, dental lab technician, legal aide, robot repairer, and aircraft mechanic. Many young women become apprentices, though a gender-conscious labor market offers them fewer and less attractive options.

Apprentices usually train for three years. They attend school one day each week and spend the remaining four days at their worksites, where adult workers participate in training them. Apprentices are paid for their work, but at a rate that recognizes their status as learners.

In large firms, apprentices take specialized classes during the workday. As they move through a series of placements in different divisions, regular employees serve as their mentors. An apprentice in a small shop ordinarily serves as a helper to one experienced worker for the entire training period, receiving instruction informally.

In school, apprentices take general courses in German and social studies plus specialized courses related to their occupation, usually incorporating aspects of math and science. Apprentice auto mechanics, for example, learn about the physics of automobile components and the calculations machinists make; managerial apprentices study such subjects as accounting and business law.

In the past decade, West Germans have had to respond to the same economic competition and technological innovation that have impelled American business leaders to support school reform. As a result, apprenticeship is being upgraded as an educational experience, not just a method of job training.

Apprenticeship is the largest form of upper-secondary education in West Germany.

One step in this direction is the consolidation of previously distinct training programs for related occupations. For example, 42 metalworking trades are now combined into 6 training occupations, all sharing a common initial core. Consolidation facilitates movement from one training program to another and assures that apprentices will be sufficiently grounded to master new technology as it appears.

Apprenticeship in West Germany is also now combined with an expanding range of schooling options. Some young people become apprentices after completing secondary schooling—college preparatory or vocational. Others enter postsecondary schools after finishing their apprenticeships. Such modifications open new avenues for future education and training.

No longer viewed as terminal training for a lifelong occupation, the dual system is becoming the foundation for lifelong learning in the workplace. The goal is to prepare workers to be adaptable, which, in turn, means giving priority to fundamental knowledge and skills, including such "higher-order thinking skills" as problem-solving.

Avoiding Rigid Tracks

The West German system is rooted in a particular culture, educational system, and labor market; we should not try to transplant it to this country. But we could invent our own form of apprenticeship, linking schools and workplaces by teaching some of the same knowledge and skills in both settings. This would simultaneously provide greater motivation for learning in school and a real alternative environment for learning.

In my view, an American system of apprenticeship should not be as narrowly focused on well-defined occupations as the West German system, or channel young people at such an early age into rigid occupational tracks. Our labor market is too volatile for that, and we value school credentials too much. Certainly we would not want a transitional institution for noncollege youth to erect new barriers against upward mobility.

However, in criticizing the tracking effects of apprenticeship, Americans should not overlook the comparable stratifying functions of ability groups in elementary schools, curriculum tracks in secondary schools, and the varying quality and prestige of colleges and universities.

We define our school system as democratic because it purportedly offers every young person a chance at higher education and a professional career. In fact, those who achieve less are taught to blame themselves and are too often left to flounder during and after high school. It is important to remember

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that in Germany those who do not go to college move directly into careers as skilled workers. And to be a skilled worker there is to have a valued identity and a respectable social status.

Several programs in the United States resemble West German apprenticeship but do avoid rigid channels. Cooperative education, in which students are placed in jobs that complement their studies, has a long and successful history. Currently, about 10 percent of U.S. vocational students are involved in recognized programs at the secondary level, mostly in retail trade. More are undoubtedly engaged in similar informal arrangements.

Another apprentice-like program is the Academy of Finance, initiated by Shearson Lehman Hutton (American Express) in New York City and now operating in more than a dozen

Joining Head and Hand

Critics accuse high school vocational programs of being "industrial museums" where students learn obsolete skills that don't help them in the job market. Political and business leaders applaud state educational reforms that require more academic subjects and leave less time for vocational ones.

In rebuttal, supporters of vocational education point out that some students seek out such programs as a refuge from academic classes. These students, they argue, learn best in hands-on situations where they can see the practical applications of knowledge. Without vocational courses more students will drop out or take watered-down academics that leave them ill-prepared for life after high school.

The debate about vocational education is proceeding across America—from the local schools to the halls of Congress. In the past, federal law recognized—and perhaps even fostered—a division between vocational and academic education. But a dramatic shift in federal policy is occurring.

The reauthorized Vocational Education Act of 1990 calls on states and districts to integrate academic and vocational education with the goal of improving students' skills in both of these areas. The emphasis is on preparing young people for a lifetime of productive labor rather than for a first job.

The task of translating this ideal into actual curriculum and instruction has only begun. Regrettably, the most extensive experiment remains unknown to many educators, probably because it originated as a vocational rather than an academic program.

Several thousand schools across the country now offer a physics curriculum called "Principles of Technology" developed by the Center for Occupational Research and Development (CORD) in conjunction with the Agency for Instructional Technology (AIT). Unlike the usual high school physics, this course caters to students who are far from the top of their class and are not planning to attend college.

"We knew lots of kids were leaving high school without the math and science background to enter programs in telecommunications or robotics," notes Leno Pedrotti of CORD. "We wanted to capture the kids who tear a car apart on Saturday and reassemble it by Monday—the kids who have great hand skills but need help using their heads."

With contributions of vocational education funds from 47 states, curriculum developers put together a two-year course with 14 units. Each unit illustrates a basic physics concept—such as force, resistance, or energy—by engaging students in a series of hands-on tasks using real industrial equipment or home devices.

For example, students experiment with the air bags used in cars, trying to figure out why and how these decrease the chances of being hurt in an accident. Eventually, they arrive at mathematical and scientific principles behind the technology—in this case, the relationship between impulse and momentum. In another activity, students build a device to test friction and resistance in clean and dirty air filters, recording the data on computers.

The devices themselves are not very different from ones students might learn to take apart or reassemble in vocational classes. But in fields like robotics workers have to be able to adapt and modify equipment, not just manipulate it—and this takes a conceptual, not just schematic, understanding of how the equipment works. The goal is to promote such understanding while avoiding a highly theoretical or abstract approach.

"We don't think 'applied' has to mean watered down," explains Dan Hull, the president of CORD. "Kids who probably never would have taken algebra I—let alone physics—are beginning to solve equations with the data they generate from experiments."

One measure of the success of Principles of Technology is the growing number of four-year colleges and universities that recognize it as satisfying the laboratory science entrance requirement. But in some school districts "turf issues" remain: Is it a vocational or a science course? Who will teach it? Who will pay for the lab, with its hefty price tag of $30,000–$40,000? And what kind of credit will students get?

Ultimately, the integration of "head and hand" will require not just new curricula but structural adjustments in the schools. According to Pedrotti, Principles of Technology is most effective where vocational and academic science teachers work together in a team. At a minimum, schools have to make a commitment to such teamwork, offering the planning time, training, and resources needed for multidisciplinary work.

Contact: Center for Occupational Research and Development, 601 C Lake Air Drive, Waco, TX 76710.

cities with many corporate sponsors. The Academy enrolls high school juniors in special courses on business and finance and gives them summer jobs in the financial services industry. The clear connections between school and work have helped ordinary kids in inner-city schools set and achieve higher goals for themselves.

California's Peninsula Academies are three-year school-within-a-school programs. Each has a particular field (such as health care) around which students organize both their academic studies and their supervised work experience. Students take three academic classes and one technical class a day. Block scheduling allows for frequent field trips and visits to worksites and also a common planning time for academic and vocational teachers.

At the same age when their American peers leave high school to flounder in the youth labor market, German young people begin careers as skilled workers.

As these programs indicate, apprenticeship is a viable approach to improving educational achievement for a broad range of young people. The ones who may benefit the most are students who plan to enter the workforce right after high school, but apprenticeship programs also attract college-bound youth and serve them well.

Creating Our Own System

Pointing to domestic exemplary programs carries the risk of implying that nothing new is needed. But these programs are small and exceptional. We need a coherent system with a sequence of steps through which young people can move. Building on existing programs and practices, our communities could offer a range of opportunities such as these:

Exploratory apprenticeships. Community service work is especially appropriate for middle-grade youth who are not ready to make vocational choices. Unlike the situation with traditional apprenticeship, there is no presumption that the student will continue in this line of work. And, unlike the usual teenage jobs, service programs may give young volunteers chances to plan projects themselves and to take on higher levels of responsibility.

School-based apprenticeships. In addition to the cooperative education programs and academies discussed above, some schools run their own enterprises, ranging from restaurants to daycare centers. School-based programs protect the young person's principal role as student and emphasize that the lessons to be learned are primarily general academic ones; job skills and occupational choice are less critical.

Work-based apprenticeships. A particularly promising form of work-based apprenticeship combines schooling with apprenticeship over a period spanning two years of high school and two years of technical college. Upon completion of such a "2 + 2" program, an apprentice has earned a high school diploma, an associate's degree, and qualification for employment as a technician, a promising occupational category with career potential.

New Partnerships

In many local areas, educators, employers, and civic leaders already meet to discuss how to improve the schools. Such groups can begin to work together to create a system that encompasses exploratory, school-based, and work-based apprenticeship.

The first step will be to take stock of opportunities already available for apprenticeship-like experiences. As gaps are identified, the planning group will design new combinations of schooling and work to address the needs of the "forgotten" young people in the community.

Clearly, this goes far beyond the agenda of the usual school-business partnership. Expanding apprenticeship will require changes in the ways both schools and workplaces deal with young people.

Schools, for example, must become more flexible. The idea that students can learn some things most effectively outside the classroom entails loosening rigid schedules and abandoning the practice of awarding credit primarily on the basis of hours spent in the classroom.

An American system of apprenticeship should not be as narrowly focused on well-defined occupations as the West German system.

Shifting toward performance-based accreditation will enable students to master the same content via different combinations of study and work. It also will provide a means of assessing the quality of instruction in the workplace, a serious issue. School instruction may then also become more varied, with a mix of didactic classes, seminars, and tutorials.

Employers and civic leaders must be firmly committed to supporting the use of workplaces and other community settings as learning environments. Public and private resources will be needed to cover the costs of integrating young worker-learners into business, industry, public, and nonprofit organizations. Training employees to be mentors and paying them for time spent teaching apprentices will not be the least of these costs.

A decade ago, the prospect of securing this level of investment by employers in the education of youth was hardly worth considering. Today, business leaders are prominent advocates of school reform. They are very concerned about the supply of adequately educated workers, and are aware that our competitors in international markets, notably West Germany and Japan, invest far more than we do in training young workers.

The question is whether employers can be convinced to bring educa-

tional reform into the workplace. Certainly they will not do so solely on the basis of altruism. They must be convinced that their contributions will be repaid in a more productive workforce. Furthermore, if only a few employers in the community commit resources to education, their competitors may be the ones to gain. A comprehensive apprenticeship system will have to involve many employers.

But, most important, cooperation must flow from agreement on the fundamental goals of education. The schools must serve the needs of a democracy for an educated citizenry, not just the needs of industry for prepared workers.

This is a promising moment for new forms of collaboration between schools and business precisely because new technology, new styles of management, and the growth of service employment are enlarging the common ground for employers' needs and the goals of democratic education. Many employers now describe their ideal employee in terms that fit the traditional well-educated person: someone who is able to communicate clearly, perform basic math, think critically, solve problems, work cooperatively, and behave responsibly.

By inventing an apprenticeship system whose primary purpose is general education, achieved by means of instruction and experience in school and workplace, we can more effectively educate youth who do not enroll in college. Ultimately, we can prepare them for employment, for further education, for citizenship, and for fuller, more satisfying lives as well.

For Further Information

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